DOCUMENT RESUME

ED 294 593 IR 052 376

TITLE	Scientific and Technical Information: Policy and Organization in the Federal Government (H.R. 2159 and H.R. 1615). Hearings before the Subcommittee on Science, Research and Technology of the Committee on Science, Space, and Technology, House of Representatives, One Hundredth Congress, First Session (July 14-15, 1987).
INSTITUTION	Congress of the U.S., Washington, DC. House Committee on Science, Space and Technology.
PUB DATE	87
NOTE	380p.
AVAILABLE FROM	Superintendent of Documents, Congressional Sales Office, U.S. Government Printing Office, Washington, DC 20402.
PUB TYPE	Legal/Legislative/Regulatory Materials (090)
EDRS PRICE	MF01/PC16 Plus Postage.
DESCRIPTORS	*Federal Legislation; Hearings; *Information Dissemination; *Scientific and Technical Information
IDENTIFIERS	Congress 100th; *Information Policy; *National Technical Information Service; Privatization

ABSTRACT

These hearings discuss issues concerning the collection and dissemination of scientific and technical information available to the federal government. Prepared statements by the following individuals are included: (1) Melvin S. Day, Herner & Co.; (2) David S. Nathan, U.S. Department of Commerce; (3) Harold Shill, American Library Association; (4) Alvin Trivelpiece, American Association for the Advancement of Science; (5) John Shattuck, Harvard University; (6) Professor H. Martin Weingartner, Vanderbilt University; (7) Kenneth B. Allen, Information Industry Association; (8) James V. Seals, Jr., American Chemical Society; (9) Hon. Ralph Kennickell, U.S. Government Printing Office; (10) James Peirce, National Federation of Federal Employees; (11) Hon. John Negroponte, U.S. Department of State; (12) Dr. Joseph Clark, National Technical Information Service; (13) Dr. John Moore, National Science Foundation; and (14) Joseph Coyne, U.S. Department of Energy. The text of H.R. 2159, to establish the National Technical Information Corporation as a wholly-owned government corporation, and H.R. 1615, to establish the Government Information Agency, are appended. (MES)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

17

SCIENTIFIC AND TECHNICAL INFORMATION: POLICY AND ORGANIZATION IN THE FEDERAL GOVERNMENT (H.R. 2159 AND H.R. 1615)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
SCIENCE, RESEARCH AND TECHNOLOGY

OF THE

COMMITTEE ON
SCIENCE, SPACE, AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

FIRST SESSION

JULY 14, 15, 1987

[No. 36]

Printed for the use of the
Committee on Science, Space, and Technology

ED294593

IR052376

U.S. GOVERNMENT PRINTING OFFICE
77-233 WASHINGTON : 1987

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

BEST COPY AVAILABLE

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

ROBERT A. ROE, New Jersey, *Chairman*

GEORGE E. BROWN, Jr., California
JAMES H. SCHEUER, New York
MARILYN LLOYD, Tennessee
DOUG WALGREN, Pennsylvania
DAN GLICKMAN, Kansas
HAROLD L. VOLKMER, Missouri
BILL NELSON, Florida
RALPH M. HALL, Texas
DAVE McCURDY, Oklahoma
NORMAN Y. MINETA, California
BUDDY MacKAY, Florida
TIM VALENTINE, North Carolina
ROBERT G. TORRICELLI, New Jersey
RICK BOUCHER, Virginia
TERRY BRUCE, Illinois
RICHARD H. STALLINGS, Idaho
BART GORDON, Tennessee**
JAMES A. TRAFICANT, Jr., Ohio
JIM CHAPMAN, Texas
LEE H. HAMILTON, Indiana
HENRY J. NOWAK, New York
CARL C. PERKINS, Kentucky
TOM McMILLEN, Maryland
DAVID E. PRICE, North Carolina
DAVID R. NAGLE, Iowa
JIMMY HAYES, Louisiana
DAVID E. SKAGGS, Colorada***

MANUEL LUJAN, Jr., New Mexico*
ROBERT S. WALKER, Pennsylvania
F. JAMES SENSENBRENNER, Jr., Wisconsin
CLAUDINE SCHNEIDER, Rhode Island
SHERWOOD L. BOEHLERT, New York
TOM LEWIS, Florida
DON RITTER, Pennsylvania
SID MORRISON, Washington
RON PACKARD, California
ROBERT C. SMITH, New Hampshire
PAUL B. HENRY, Michigan
HARRIS W. FAWELL, Illinois
D. FRENCH SLAUGHTER, Jr., Virginia
LAMAR SMITH, Texas
ERNEST L. KONNYU, California
JACK BUECHNER, Missouri
JOEL HEFLEY, Colorado
CONSTANCE A. MORELLA, Maryland

Harold P. Hanson, *Executive Director*
Robert C. Ketcham, *General Counsel*
Carolyn Greenfeld, *Chief Clerk*
R. Thomas Weimer, *Republican Staff Director*

Subcommittee on Science, Research and Technology

DOUG WALGREN, Pennsylvania, *Chairman*

BUDDY MacKAY, Florida
LEE H. HAMILTON, Indiana
HENRY J. NOWAK, New York
DAVID E. PRICE, North Carolina
GEORGE E. BROWN, Jr., Califorina
NORMAN Y. MINETA, California
TERRY BRUCE, Illinois
CARL C. PERKINS, Kentucky
DAVID R. NAGLE, Iowa
JIMMY HAYES, Louisiana
TIM VALENTINE, North Carolina
JIM CHAPMAN, Texas

SHERWOOD L. BOEHLERT, New York
PAUL HENRY, Michigan
CLAUDINE SCHNEIDER, Rhode Island
DON RITTER, Pennsylvania
SID MORRISON, Washington
D. FRENCH SLAUGHTER, Jr., Virginia
LAMAR SMITH, Texas
JACK BUECHNER, Missouri

---

* Ranking Republican Member.
** Resigned February 19, 1987 (H. Res. 89).
*** Elected March 30, 1987 (H. Res. 133).

CONTENTS

WITNESSES

July 14, 1987:

Page

Melvin S. Day, senior vice-president, Herner and Co., and former deputy director, National Library of Medicine 8

David S. Nathan, Deputy Assistant Secretary of Commerce for Special Programs, U.S. Department of Commerce, accompanied by Joseph E. Clark, Deputy Director, National Technical Information Service 25

Harold Shill, chair, legislation assembly, American Library Association; Alvin Trivelpiece, executive director, American Association for the Advancement of Science; John Shattuck, vice president for government, community and public affairs, Harvard University, on behalf of the Association of Research Libraries and Association of American Universities; Prof. H. Martin Weingartner, Vanderbilt University, on behalf of Council of Scientific Society Presidents 45

Kenneth B. Allen, senior vice president, government relations, Information Industry Association; and James V. Seals, Jr., American Chemical Society 131

July 15, 1987:

Hon. Ralph Kennickell, Public Printer of the United States, U.S. Government Printing Office, Washington, DC, accompanied by Hon. Donald E. Fossedal, Superintendent of Documents, Government Printing Office 169

James Peirce, national president, National Federation of Federal Employees, Washington, DC, accompanied by Beth Moten, legislative director, and Steven Kreisberg, field director 189

Hon. John Negroponte, Assistant Secretary for Oceans and International Environmental and Scientific Affairs, Department of State, Washington, DC; Dr. Joseph Clark, Deputy Director, National Technical Information Service, Department of Commerce, Washington, DC; Dr. John Moore, Deputy Director, National Science Foundation, Washington, DC; and Joseph Coyne, manager, scientific and technical information, Technical Information Service, Department of Energy, Oak Ridge, TN 205

APPENDIXES

I. Report submitted by the Public Printer in response to Hon. George E. Brown, Jr 260

II. Additional materials received from witnesses 300

III. H.R. 2159, introduced by Hon. Doug Walgren 306

IV. H.R. 1615, introduced by Hon. George E. Brown, Jr 323

V. Executive comments on H.R. 2159 and H.R. 1615 received by the Subcommittee 351

VI. Statements for the record 367

SCIENTIFIC AND TECHNICAL INFORMATION: POLICY AND ORGANIZATION IN THE FEDERAL GOVERNMENT (H.R. 2159 AND H.R. 1615)

TUESDAY, JULY 14, 1987

House of Representatives,
Committee on Science, Space, and Technology,
Subcommittee on Science, Research and Technology,
Washington, DC.

The subcommittee met, pursuant to notice, at 1:19 p.m., in room 2325, Rayburn House Office Building, the Honorable George E. Brown, Jr. (ranking majority member of the subcommittee) presiding.

Mr. **Brown** [presiding]. The Subcommittee will come to order. How are you today, Mr. Day?

Mr. **Day**. Fine, thank you, Mr. Chairman.

Mr. **Brown**. Before you start, I'm going to read a little opening statement. Let me set the stage first. The Chairman, Mr. Walgren (Hon. Doug Walgren, Chairman, Subcommittee on Science, Research and Technology) is taking a short break and should be here in a few minutes, and he will have an opening statement as Chairman, then he will recognize me and I will make this opening statement.

I am pleased that these hearings afford us the opportunity to discuss several important aspects of Federal information policy. One of these aspects I hope we can discuss and lay to rest once and for all is the Administration's attempt to privatize the National Technical Information Service, NTIS.

We have in NTIS an agency providing a vital function in the provision of Federal scientific and technical information through a host of clienteles, and this agency is performing its function at no cost to American taxpayers. With these facts in mind, the Administration's privatization attempts make absolutely no sense at all. No sense unless it is the intentional aim of the Administration to diminish the amount of Federal scientific and technical information to which American business, industry and the general public have access.

I also hope that the testimony of the witnesses we shall hear will help us begin the formulation of a coherent set of policies by which we may better collect and administer that vital resource which we call Federal information. I do not think that I exaggerate when I say that Federal information, and in particular Federal scientific and technical information, is one of this nation's most valuable and critical resources. This information is crucial to the maintenance of

America's competitive posture in world markets and is one of the most important means by which we provide for the health and welfare of this country.

From my experience and observations, I believe that Federal information has not been properly managed; it has been neglected and overlooked to the extent that many members of both the Administration and the Congress have suddenly realized that Federal information is vital not only to our defense but also to our economy and to our health.

I hope that these hearings will assist us by both creating a greater awareness of the importance of Federal information and by informing us of where some of the specific problems are in dealing with Federal information. Because there are so many competing, overlapping and yet diverging Federal information systems operating, I introduced H.R. 1615, a bill which I feel will make access to Federal information considerably easier, and in the relatively short run less expensive to obtain.

I want to make it very clear that H.R. 1615 does not either implicitly or explicitly make any changes in the existing Depository Library Program. The Depository Library Program is a very important means of insuring that the American public has access to Federal information, and H.R. 1615 is in no way an attempt to impair that access.

Similarly, H.R. 1615 should not be viewed as an impediment to private sector involvement in the distribution of Federal information. The private sector has played a vital role in the distribution of Federal information and I certainly do not want to see that role diminished. However, the Federal Government must take those steps necessary to create the policies which will protect its information from marketplace whims and insure the continued existence of that information.

As I stated in the introductory statement on H.R. 1615 when I introduced it, this bill does not allow or encourage the Government Information Agency to repackage or reformat Federal information; those functions are best left where they belong, in the private sector.

Mr. Chairman, I want to close by stating that we must begin to create a systematic regimen of policies which help us to use and husband our Federal information. I am reminded in this regard of the old story of the golf duffer whose ball landed on top of an ant hill. After several unsuccessful strokes and the destruction of thousands of ants, one of the two remaining ants said to the other, "If we want to survive, we'd better get on the ball."

My point is simple; if we are ever to gain control of Federal information, the time is now to do so; later may well be too late. Pretty good joke, wasn't it? [Laughter.]

Without objection, the committee will allow for hearings to be covered by photographers, video tape and other media at this time.

Now Mr. Walgren is here and will assume the Chair at this point.

Mr. **Walgren** [presiding]. Thank you very much, and without objection I will insert an opening statement in the record, and we appreciate the witnesses that have prepared their testimony for the Committee today.

[The prepared statement of Mr. Walgren follows:]

OPENING STATEMENT
BY THE HON. DOUG WALGREN
CHAIRMAN, SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
ON FEDERAL INFORMATION POLICY

July 14, 1987

We are meeting today to discuss questions governing the collection and dissemination of scientific and technical information available to the Federal Government. This Committee each year authorizes billions of scarce taxpayer dollars for carrying on scientific research and development. Without efficient, timely collection and dissemination of the results from this activity, these funds would be wasted. As it is, the continuing lack of consensus in this area imposes penalties on American industry that we can no longer afford.

I have in the past noted the fact that these issues can be quite complex and difficult to understand, mainly because there is no direct connection between a responsive information policy and success in scientific research or technical development. The Congressional Research Service, in a background report prepared for the Committee's Science Policy Task Force, said that though common sense argues that science and technology cannot progress in the absence of information, it is no simple task to put a dollar value on efficient information policy.

Some have tried. For example, the Department of Energy commissioned a study in 1982 to try and estimate the value of its information database. The Department was told that, for an investment of $5.8 billion in generating and disseminating scientific and technical information, some $13 billion in time and equipment was saved.

In 1983, a NASA consultant told this Committee that a failure in a $17 million rocket test program could have been avoided, had the technicians known to look in the Air Force's handbook on aerospace structural materials. It had cost about $3000, the consultant estimated, to produce the chapter on steel in that handbook, and the flawed welding technique that led to the rocket failure was discussed there.

Yesterday's *Washington Post* reported that while our meteorologists may not be perfect in their predictions of tomorrow's weather, their ability to gather and disseminate information on weather phenomena is important to agricultural production, ship movements, aircraft delays and military maneuvers. As more data are collected, the mathematical models used for predictions become better. We may never truly know how many lives are saved by timely announcement of hazardous weather conditions.

The examples point out the fact that there are some aspects of information collection and dissemination in the Federal Government that work well. Other are not as successful. We would like to ask our witnesses to assist us in identifying both successes and failures so that we can build on the former and repair the latter.

As a final example, I refer you to the July *Reader's Digest*, where the eminent cardiovascular surgeon Michael DeBakey discusses the success of the National Library of Medicine's MEDLINE service. This database, accessible from all over the United States, allows users to search material from 3500 medical journals around the world. Such aid can be critical to a physician facing a disease he has not treated before. And yet this success story can be contrasted with a December report in *Business Week* magazine that noted the cost of access to MEDLINE had increased after the service was provided through a private firm. Defining the proper role for the private sector in Federal information policy is one of the goals for these hearings.

What else do we hope to learn in these hearings? In 1976, when the Congress re-established the Office of Science and Technology Policy, it was clear that this area was of special interest. The original House bill had a separate title that mirrored many of the features in one of the bills we will discuss today. The separate information agency was not incorporated in the law, but the Congress did declare that the Federal Government bears the responsibility to organize its collection of this information resource and to see that it is promptly transferred to the private sector.

The fact that we are here this morning revisiting the same territory demonstrates that the policy mechanism has failed to carry out the responsibility set for it by Congress. Worse, the lack of coordination in policy means that various agencies of the Government

HAVE BEGUN PURSUING THEIR OWN INTERESTS IN COLLECTING AND DISSEMINATING INFORMATION TO THE DETRIMENT OF THE INTERESTS OF THE GOVERNMENT AND THE PUBLIC. OUR FRUSTRATIONS ARE MULTIPLIED BY THE FACT THAT THE EXPLOSION IN INFORMATION TECHNOLOGY MEANS THAT WE ARE CONSTANTLY ADDRESSING YESTERDAY'S PROBLEMS WITH OBSOLETE SOLUTIONS, SATISFYING NO ONE. WE INTEND TO FIND OUT WHETHER THERE ARE ALTERNATIVE SOURCES OF POLICY GUIDANCE THAT THE CONGRESS CAN TAP TO BRING ORDER TO THIS AREA.

WHEN THE UNITED STATES ENJOYED GLOBAL PREEMINENCE IN SCIENCE AND TECHNOLOGY, WE COULD AFFORD TO IGNORE THE PENALTIES OF INEFFICIENCY WE ARE PAYING. BUT THAT LUXURY IS RAPIDLY BEING OVERTAKEN BY EVENTS. THE OFFICE OF TECHNOLOGY ASSESSMENT, IN THEIR NEW STUDY INTERNATIONAL COMPETITION IN SERVICES, WARNS THE CONGRESS THAT THE JAPANESE SEEM BETTER PREPARED TO HANDLE THE CHANGE TO AN ECONOMY WHERE THE APPLICATION OF INFORMATION TO THE PRODUCTION OF GOODS AND SERVICES PLAYS A VITAL ROLE.

AMERICA IS ALREADY WELL ALONG IN THIS TRANSITION. UNLESS THE FEDERAL GOVERNMENT, WITH ITS LEADING ROLE IN THE CREATION OF SCIENTIFIC AND TECHNICAL KNOWLEDGE, CAN OVERCOME THE HURDLES WE INSIST ON PUTTING IN OUR OWN WAY, WE ALREADY KNOW WHAT THE FUTURE WILL LOOK LIKE.

Mr. **Walgren.** We start first with a historical perspective with Melvin Day, the former Deputy Director of the National Library of Medicine. We appreciate your being a resource to the committee, Mr. Day. Your written statement will be made part of the record and please feel free to focus on particular points that would best be communicated in a more informal setting than a paper as such, and it will help us to focus on those when the record is worked with by other members and staff. Please proceed.

STATEMENT OF MELVIN S. DAY, FORMER DEPUTY DIRECTOR, NATIONAL LIBRARY OF MEDICINE, AND SENIOR VICE PRESIDENT, HERNER & CO., ARLINGTON, VA

Mr. **Day.** Thank you very much, Mr. Chairman. I feel honored to be invited to make my thoughts known to this important Subcommittee of the Congress. Before I begin I would like to congratulate you, Mr. Chairman, and the members of the subcommittee for undertaking these hearings at this particular time because of the importance of the issues you are addressing. This afternoon, I do plan to talk about what I consider to be an important policy issue myself.[1]

Science and technology have been synonymous with our great country, as have been the scientific and technical information programs that support them. And, Mr. Chairman, with your permission I will refer to scientific and technical information hereafter in my statement as S&T information.

As a long-time member of the information community who strongly believes in the vital importance of strong Federal and national S&T information programs, it has been a matter of deep concern to me that so little attention in recent years has been given to this subject in the Executive Office of the President and in the senior leadership offices of the Federal R&D agencies.

To give you the full flavor of why I'm so concerned, let me step back in history and give you a participant's account of how and why a Federal program to strengthen Federal S&T information activities was undertaken in the 1950's and even more vigorously in the 1960's, with an alarming accelerating decline in the 1970's and 1980's. It will be a brief depiction to provide what I hope will be useful background to the Subcommittee, and at the same time to provide a basis for my recommendation.

First of all, I recognize that this Subcommittee is fully aware of the increasing importance of the unusual commodity, scientific and technical information. It is now virtually a form of world currency whose value has proven itself unquestionably during the last quarter century. It is a tool that contributes to technological and scientific superiority, and there is a definite tie between both national productivity and competitiveness, and the use of S&T information. Japan is a good case in point where the acquisition, digestion, use and exploitation of the world's S&T information is a national priority.

Back in the 1950's and early 1960's, Congress began to provide substantial sums of money to fund Federal R&D programs. Space, energy, health and defense research programs flourished, and to support them information programs were strengthened in each of the mission areas.

---

[1] Mr. Day requested deletion of the word "myself."

In 1959 under Dr. Killian,[2] President Eisenhower's science advisor, the President's Science Advisory Committee commissioned the Baker Report,[3] a study of the Federal Government's major information programs. The report called for strengthening these programs in order to provide greater support to the Federal R&D programs, and at the same time, to transfer more effectively wherever possible the fruits of that Federal R&D to the non-government community.

About this time, Senator Humphrey,[4] Chairman of the Senate Government Operations Committee, held a series of hearings to examine the state of the Federal agencies' S&T information programs.[5] While he, too, called for strengthening these programs, at the same time he expressed his astonishment and concern about the lack of formal policy coordination among all these programs, with each agency's program going its own way. He expressed his concern in the strongest terms about the lack of leadership in this area coming from the White House.

The extraordinary thing about Senator Humphrey in the early 1960's was the way he successfully obtained commitments from President Kennedy's science advisor, Dr. Jerry Wiesner,[6] and from the R&D agency heads. His efforts were the stimulus for a vigorous program centered in the Executive Office of the President during the 1960's to provide policy coordination in a formal manner for a large number of Federal S&T information programs.

It was during this period that Dr. Wiesner commissioned two important studies in this area. Because of the time constraints this afternoon I will do no more than mention the names of the two important reports produced by the studies. In 1962, the Crawford Report [7] was prepared for the Office of Science & Technology, and in 1963 the Weinberg Report [8] was prepared for the President's Science Advisory Committee. The net outcome of both reports was a better understanding of the role and needs of scientists and engineers in the production, use and communication of S&T information; the role of the Federal information programs in this whole process; and the need for a focal point in the Executive Office of the President to maintain involvement of OST in the collective Federal information area.

---

[2] Dr. James R. Killian, Jr., Special Assistant to the President for Science and Technology (1957–59).

[3] "Improving the Availability of Scientific and Technical Information in the United States," A Report of the President's Science Advisory Committee, 7 December 1958. Dr. William O. Baker was Chairman of the Committee's Panel on Scientific Information. [The Subcommittee appreciates the assistance of the Librarian and Research staff at the Dwight D. Eisenhower Presidential Library in identifying Mr. Day's reference.]

[4] Senator Hubert H. Humphrey (D-MN).

[5] *Interagency Coordination of Information*, Hearings before the Subcommittee on Reorganization and International Organizations, Committee on Government Operations, United States Senate, 87th Congress, 2nd Session; September 21, 1962 (Washington: Government Printing Office, 1962).

[6] Dr. Jerome B. Wiesner, Special Assistant to the President for Science and Technology and Director, Office of Science and Technology (1961–64).

[7] James H. Crawford, Jr., *et. al.*, *Scientific and Technical Communications in the Government: Task Force Report to the President's Special Assistant for Science and Technology* (Springfield, Virginia: Clearinghouse for Scientific and Technical Information, 1962). Dr. Crawford served on President Kennedy's Science Advisory Board and as Assistant Director for the Solid State Division, Oak Ridge National Laboratory, Tennessee. [The Subcommittee appreciates the assistance of the Librarians at the National Bureau of Standards and the John F. Kennedy Presidential Library in identifying Mr. Day's reference.]

[8] Alvin M. Weinberg, *et. al.*, *Science, Government and Information: The Responsibilities of the Technical Community and the Government in the Transfer of Information*. The White House, January 10, 1963 Press Release. Dr. Weinberg was Chairman of the Panel on Scientific Information for the Science Advisory Board. [The Subcommittee appreciates the assistance of the Librarian at the John F. Kennedy Presidential Library in identifying Mr. Day's reference.]

The result was the establishment in 1963 by the Federal Council for Science and Technology, FCST, of its Committee on Scientific and Technical Information, which carried the acronym COSATI, to be composed of a high-level technical information focal point in each Federal department and R&D agency.

For ten years, COSATI served as an effective policy coordinating mechanism for the Federal information programs. It addresed common problems and made recommendations to the Federal Council for Science & Technology for adoption and implementation across all Executive Branch agencies. It developed and recommended Federal information policies, developed Federal information standards, promoted the sharing of know-how, software developments and information products, and promoted interconnection of systems and the elimination of duplication in processing by sharing. COSATI had a full menu and made a major contribution. Because of the impact of Federal information programs and the leadership of COSATI in this area, COSATI became, in effect, a national focal and rallying point for the private, not-for-profit and for-profit leadership officials, as well as those of the government. In this role, COSATI served to facilitate cooperation between the public and private sectors.

It was during this same period, because of Federal Council involvement, that strong management support within the departments and science agencies flowed down to the Federal information managers, and to my mind that brought a degree of progress across the government information programs that has not been equaled.

During the 1960's, because of the effectiveness of Federal information programs, there was no doubt that the United States was the world leader in all areas and in all aspects of S&T information.

All of these great accomplishments were possible because of the strong support of the Congress and the Administration, and particularly within the Administration, the Office of Science & Technology in the Executive Office of the President. This support engendered a spirit among the COSATI members which stimulated each of its information programs to excel.

In 1973, the demise of the Federal Council for Science & Technology provided the epitaph for COSATI. In most cases the close and direct relationship that previously existed via the Federal Council channel between the top agency R&D manager and the S&T information manager came to an end. In addition, the demise of COSATI meant the end of the formal policy coordination for S&T information programs across the government, and these programs cost the government well in excess of $1 billion a year. The resultant loss, with rare exceptions, has impacted negatively on every government information program.

Even in 1975 when, by congressional action, the Office of Science and Technology Policy, OSTP, was established in the Executive

Office of the President, with a mandated requirement to concern itself with Federal S&T information programs, there has been no action by OSTP in that area since then.

The basic needs for the COSATI programmatic activities are just as real today even though the time frame is different and the existing electronic technology in use today is far more advanced.

Lest there be any doubt that the managers of the Federal S&T information programs themselves feel that there is a major need for coordination among the agency information programs, I should point out that in the absence of OSTP action in this area, they themselves have tried, as conscientious and capable managers, to compensate in part for the OSTP inaction by taking their own steps to try to coordinate. All of these efforts are to be commended as grass-roots efforts to try to fill some of the void left by the demise of COSATI. Each effort addresses different matters, but even together their objectives are limited and they fall far short of an OSTP sponsored coordinating group that can work both on policy and practices; and by virtue of its sponsorship can seek, as appropriate, government-wide application and implementation.

On the plus side, the nation is indeed fortunate that there are members in Congress who are aware of the seriousness of the Federal information problems and the negative impact of these problems on our ability as a nation to address successfully and solve the serious economic, health, social and national security problems which face us.

These hearings prove that point as do your noble efforts, Mr. Chairman, and those of Congressman Brown. For my part, I sincerely regret that in my statement this afternoon my comments covering the 1970 and 1980 time frames could not have been more positive. As a nation, our competitors are beating us at our game, and they have become masters at gathering and exploiting the world's technical knowledge.

As important as strong information programs were to support the nation's research efforts in the 1950's and 1960's, they are even more important today. Back then we were the number one R&D power in the world. Back then we were supporting 75 percent of the world R&D; today, as you know, 75 to 80 percent of the world's R&D is conducted outside of our borders, and the importance of obtaining the information produced by those programs, as well as from our own U.S. R&D programs, and making that information available for the use and exploitation by the U.S. community is crucial if we are to recover and maintain our competitive edge.

Accordingly, we can no longer afford the lack of OSTP involvement. It is crucial that OSTP provide the desperately needed leadership and policy coordination to ensure the most efficient and effective results from the totality of the Federal information programs.

My basic recommendation is that each department and science agency designate its scientific and technical information focal point, and that the Office for Science and Technology Policy establish a working committee of these focal points as a subcommittee of the Federal Council for Science and Technology Policy to act as the policy-coordinating mechanism of Federal S&T information programs. OSTP should be answerable to the Congress for the results of these efforts.

I am confident that when the Federal Council members, who are also the top science administrators of the departments and agencies, become responsible for a Federal Council information committee, each of these same officials will become more directly involved with the information focal points of his department or agency. This direct communication channel from the top down will, as it did with COSATI, result in stronger Federal S&T information programs. In addition, the benefits of policy coordination for the S&T information programs across the government, as those listed for COSATI earlier in this statement, will certainly give the taxpayer the full measure of his investment; the U.S. scientists and engineers the best possible information services they need; and the Nation an important additional capability to compete and to successfully address its economic, health, social and national security problems.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Day follows:]

1700 NORTH MOORE STREET | ARLINGTON, VIRGINIA 22209 | (703) 558-8200

HERNER & COMPANY
Progress through effective use of information
Established 1955

August 3, 1987

Mr. Earley Green
House of Representatives
Committee on Science, Space, and
  Technology
Rayburn House Office Building
Room 2321
Washington, D.C. 20515

Dear Mr. Green:

Many thanks for giving me an opportunity to review the transcript of my testimony presented on July 14, 1987 before the Committee. I have corrected the transcription errors on pages 7, 13, 14, 18, 19, and 20 of the enclosure.

I spoke with a member of your staff about my inadvertent small omission in my written statement of a name of an Agency and she advised me to note the proper insertion in a copy of my written statement which I have attached. I am embarrassed, rightly so, and would greatly appreciate your inserting the correct information on page 4 in the penultimate paragraph.

I do appreciate your assistance.

Sincerely,

Melvin S. Day
Senior Vice President

Enclosures

Statement of Melvin S. Day, Senior Vice President, Herner and Company
before the
Subcommittee on Science, Research, and Technology
of the
Committee on Science, Space, and Technology

U.S. House of Representatives
July 14, 1987

I feel honored to be invited to make my thoughts known to this important subcommittee of Congress. Before I begin, I would like to congratulate Chairman Walgren and the members of the subcommittee for undertaking these hearings at this particular time. The diligence and concern of this subcommittee bring hope to the deeply concerned across our nation who are discouraged with the accelerating erosion of our world leadership role and, in particular, with our ability to compete successfully in areas, which in the past, have always been hallmarks of our success. Competitiveness is no buzz word but rather a condition that is absolutely vital to our ability to remain the world leader.

Science and technology have been synonymous with our great country, as have been the scientific and technical information programs that support them. As a long time member of the information community who strongly believes in the vital importance of strong Federal and national scientific information programs, it has been a matter of deep concern to me that so little attention, in recent years, has been given to this subject in the Executive Office of the President and in the senior leadership offices of the Federal R & D agencies.

To give you the full flavor of why I am so concerned, let me step back in history and give you a participant's account of how and why a Federal program to strengthen Federal scientific and technical information activities was undertaken in the 1950's; and even more vigorously in the 1960's; with an alarming accelerating decline in the 1970's and 1980's.

It will be a brief depiction, to provide, what I hope will be, useful background to the subcommittee and, at the same time, to provide a basis for my recommendation.

First of all, I recognize that this subcommittee is fully aware of the increasing importance of the unusual commodity, scientific and technical information. It is now virtually a form of world currency whose value has proven itself, unquestionably, during the last quarter century. It is a tool that contributes to technological and scientific superiority and there is a definite tie between both national productivity and competitiveness, and the use of scientific and technical information. Japan is a good case in point where the acquisition, digestion, use and exploitation of the world's scientific and technical information is a national priority.

Back in the 1950's and early 1960's, Congress began to provide substantial sums of money to fund Federal R & D programs. Space, energy, health, and defense research programs flourished and, to support them, information programs were strengthened in each of the mission areas. At the same time, while there was limited crosstalk and cooperation among the different Federal information programs, there was no formal policy coordinating mechanism.

In 1959 under Dr. Killian, President Eisenhower's Science Advisor, the President's Science Advisory Committee (PSAC) commissioned the Baker Report, a study of the Federal Government's major information programs. The report called for strengthening these programs to provide greater support to the Federal R & D programs and, at the same time, to transfer more effectively, wherever possible, the fruits of that Federal R & D to the non-government community.

About this time, Senator Humphrey, Chairman of a Senate Government Operations Subcommittee, held a series of hearings to examine the state of the Federal Agencies' scientific and technical information programs. While he, too, called for strengthening these programs, at the same time, he expressed his astonishment and concern about the lack of formal policy coordination among all these programs, with each agency's program going its own way. He expressed his concern in the strongest terms about the lack of leadership in this area coming from the White House.

The extraordinary thing about Senator Humphrey in the early 1960's was the way he successfully obtained committments from President Kennedy's Science Advisor, Dr. Jerry Wiesner, and from the R & D Agency Heads. His efforts were the stimulus for a vigorous program centered in the Executive Office of the President, during the 1960's to provide policy coordination, in a formal manner, for the large number of Federal scientific and technical information programs.

It was during this period that Dr. Wiesner commissioned two important studies in this area. Because of the time constraints this afternoon, I will do no more than mention the names of the two important reports produced by the studies. In 1962 the Crawford Report was prepared for the Office of Science and Technology, EOP, and in 1963 the Weinberg Report was prepared for the President's Science Advisory Committee. The net outcome of both reports was a better understanding of the role and needs of scientists and engineers in the production, use, and communication of scientific and technical information; the role of the Federal information programs in this whole process; and the need for a focal point in the Executive Office of the President to maintain involvement of OST in the collective Federal information area. The result was the establishment in 1963 by the Federal Council for Science and Technology (FCST) of its Committee on Scientific and Technical Information (which carried the acronym--COSATI) to be composed of a high level technical information focal point in each Federal Department and R & D Agency.

For 10 years COSATI served as an effective policy coordinating mechanism for the Federal information programs. It addressed common problems and made recommendations to the Federal Council for Science and Technology for adoption and implementation across all Executive Branch Agencies. It developed and recommended Federal information policies; developed Federal information standards; promoted the sharing of know-how, software developments, and information products; and promoted interconnection of systems and the elimination of duplication in processing, by sharing. COSATI had a full menu and made a major contribution! Because of the impact of Federal information programs and the leadership of COSATI in this area, it became, in effect, a national focal and rallying point for the private not-for-profit and for-profit leadership officials as well as those of the government. In this role, COSATI served to facilitate cooperation between the public and private sectors.

It was during this same period, because of FCST involvement, that strong management support within the Departments and Science Agencies flowed down to the Federal information managers and, to my mind, that brought a degree of progress across the Government information programs that has not been equalled. During the 1960's, because of the effectiveness of the Federal information programs there was no doubt that the United States was the world leader in all areas and in all aspects of scientific and technical information.

The information systems developed by and for the government agencies utilizing the new electronic technologies provided a new dimension of information service for the U.S. research and development community. The real winners were the U.S. scientists and engineers who needed and used the government or government supported information services and through them--the Nation.

It should be noted that the success of the government information programs was due, in large part, to the productive working relationship between the government and the private sector working jointly to apply to the Federal Government's information needs the phenomenal developments in the electronic, communications, and information technologies. It was this truly American way of our Government and private sectors working together to serve in the best possible manner the public interest, which gave us at that time, the information programs, products and services that were the envy of the world.

During the 1960's formal and major programmatic efforts were initiated to transfer to the non-government community, technology developed by or for Federal Government programs. These initial efforts attempted to bring about the application of government produced knowledge by U.S. industry in non-governmental applications as an additional dividend to the taxpayer on the investment he had already made in developing the technology for the government's use.

All of these great accomplishments were possible because of the strong support of the Congress and the Administration, particularly in the Office of Science and Technology in the Executive Office of the President. This support engendered a spirit among the COSATI members which stimulated each of its information programs to excel.

In 1973 the demise of the Federal Council for Science and Technology provided the epitaph for COSATI. In most cases the close and direct relationship that previously existed, via the FCST channel, between the top agency R & D manager and the scientific and technical information manager came to an end. In addition, the demise of COSATI meant the end of the formal policy coordination for scientific and technical information programs across the government. The resultant loss, with rare exceptions has impacted negatively on every government information program.

Since that time there has been no interest at the White House level in resurrecting the policy coordination mechanism. In fact, I believe that it is accurate to say that there has been little apparent interest at all, at that level, in the Federal scientific and technical information programs.

Even in 1975 when, by Congressional action, the Office of Science and Technology Policy (OSTP) was established in the Executive Office of President with a mandated requirement to concern itself with Federal scientific and technical information programs, there has been no action by OSTP in that area since then.

The basic needs for the COSATI programmatic activities are just as real today even though the time frame is different and the existing electronic technology in use today is far more advanced.

What I find puzzeling is the lack of White House expressed interest in the most efficient and most cost effective management of its hundreds of scientific and technical information activities scattered throughout the government. The total annual cost of these programs is significant. COSATI used to compile an annual report detailing the dollar costs of Federal scientific and technical information activities and I recall that its last annual report of costs prepared more than 15 years ago, was in the $1 billion range. It is safe to say that today's gross costs for the Federal Government's scientific and technical information activities are much higher. Dr. Donald King, King Research, in his study of the annual costs to the Federal Government is in this same area for 1977, reported costs in excess of $3 billion.

Certainly, OMB is interested in controlling costs and good management and it does have an Information Resource Management program (IRM), but, as pointed out by Representative George Brown, a distinguished member of your committee, the OMB Information Resource Management program barely touches on the complexities of the Federal scientific and technical information activities and what's more, OMB with its narrow fiscal focus, rather than programmatic focus, is not set up to do the job that by statute is the responsibility of OSTP.

Lest there be any doubt that the managers of the Federal scientific and technical information programs themselves feel that there is a major need for coordination among the agency information programs, I should point out that, in the absence of OSTP action in this area, they have tried, as conscientious and capable managers, to compensate in part for OSTP inaction by taking their own steps to try to coordinate.

The managers of the Department of Energy Technical Information Center, Department of Defense Technical Information Center, National Library of Medicine, and the National Technical Information Service have established a mechanism called CENDI to facilitate coordination and cooperation among their four programs.

In addition, the Federal Library Committee has reorganized itself into the Federal Library and Information Center Committee to foster ways for a larger number of Information Managers to work together to address common problems.

*NASA Technical Information Branch,

Another attempt to help fill a part of the void is the effort of Andrew Aimes, a former chairman of COSATI, and now a retired Government official and retired Army Officer, who, as a volunteer, has organized monthly meetings of government information managers to share information on matters of importance to them and their programs. I, believe that Grace Ostenso, Staff Director for your sub-committee, Mr. Chairman, has had an opportunity to attend at least one of those meetings.

All of these efforts are to be commended as grass roots efforts to try to fill some of the void left by the demise of COSATI. Each effort addresses different matters but, even together, their objectives are limited and they fall far short of an OSTP sponsored coordinating group that can work both on policy and practices, and by virtue of its sponsorship can seek, as appropriate, government-wide application and implementation.

On the plus side, the Nation is indeed fortunate that there are Members of Congress who are aware of the seriousness of the Federal information problems, and the negative impact of these problems on our ability as a Nation to address successfully and solve the serious economic, health, social, and national security problems which face us.

These Hearings prove the point as do your own noble efforts, Mr. Chairman and those of Congressman George Brown. Each of us, who knows the extent of the problem is fully appreciative of your efforts and of those of the other members of the Committee.

For my part, I sincerely regret that in my statement this afternoon, my comments covering the 1970 and 1980 time frames could not have been more positive.

As a Nation, our competitors are beating us at our own game and they have become masters at gathering and exploiting the world's technical knowledge. As important, as strong information programs were, to support to Nation's research efforts in the 1950's and 1960's, they are even more important today. Back then we were the No. 1 R & D power in the world. Back then we were supporting 75% of the world's R & D, and although we attempted to obtain, organize, and make available the results of the remaining 25% for the use of U.S. science and engineering communities, any gaps in coverage or other types of slippage on our part, were nowhere near as critical as they are today. Today, as you know, 75%-80% of the world's R & D is conducted outside of our borders and the importance of obtaining the information produced by those programs, as well as from our U.S. R & D programs, and making it available for the use and exploitation by the U.S. community is crucial if we are to recover and maintain our competitive edge.

Accordingly, we can no longer afford the lack of OSTP involvement. It is crucial that OSTP provide the desperately needed leadership and policy coordination to ensure the most efficient and effective results from the totality of the Federal information programs.

My basic recommendation is that each Department and Science Agency designate its scientific and technical information focal point and that the Office for Science and Technology Policy establish a working committee of these focal points, as a subcommittee of the Federal Council for Science and Technology Policy, to act as the policy coordinating mechanism for Federal scientific and technical information programs. OSTP should be answerable to the Congress for the results of these efforts.

I am confident that when the Federal Council members, who are also the top science administrators of the Departments and Agencies, become responsible for the Federal Council information committee, each of these same officials will become more directly involved with the information focal point of his Department or Agency. This direct communication channel, from the top downward as it did with COSATI, will result in stronger Federal S & T information programs. In addition, the benefits of policy coordination for the S & T information programs across the Government, as those listed for COSATI earlier in this statement, will certainly give the taxpayer the full measure of its investment; the U.S. scientists and engineers the best possible information services they need; and the Nation an important additional capability to compete and to successfully address its other health, social, and national security problems.

Thank you, Mr. Chairman

MELVIN S. DAY

RESUME

Mr. Day has a unique background of leadership in the establishment, upgrading, and management of major Government scientific and technical information programs with over 36 years experience in Government Service. His key Government management roles included: Director, National Technical Information Service; Deputy Director, National Library of Medicine; Director, Office of Science Information Service, National Science Foundation; Director of the NASA technical information programs; and Director of the scientific and technical information programs of the Atomic Energy Commission. His leadership role in the government information field extended far beyond the limits of his primary duties for his Agency. Mr. Day played a leading role in the government's key interagency activities as Chairman, Committee on Scientific and Technical Information, Federal Council for Science and Technology; Chairman, Executive Council, Federal Library Committee; Vice-Chairman, Public Printer's Micro Publishing Council; and a member of a number of other interagency committees and task forces. Outside the Government he represented the Government's interests as a Member of the Board of several scientific and engineering societies' information activities.

Internationally, Mr. Day has led U.S. Government Delegations to inter-governmental meetings and conferences and has served as the U.S. spokesman. He has been Chairman, NATO-AGARD Committee on Scientific and Technical Information (Paris); and President, International Council for Scientific and Technical Information. Since his retirement from Government Services in 1982, Mr. Day has been an information industry corporate officer and currently is Senior Vice President, Herner and Company. He was elected President, American Society for Information Science; is a Fellow of the American Society for the Advancement of Science; and is a member of the American Chemical Society, N.Y. Academy of Sciences, American Library Association, and the Special Libraries Association.

During World War II he served in the U.S. Army and was assigned to the Manhattan Project as a laboratory chemist.

Mr. **Walgren**. Thank you very much, Mr. Day, we appreciate that statement to the Committee. You indicate in your statement that you would like to see OSTP being that central agency through a working committee. What do you identify as the weakest link in the present Federal structure? I gather the fact that there is no——

Mr. **Day**. At the present time, Mr. Chairman, we do not have any set of coordinated information policies as such. There's nobody coordinating at the present time. If there is any coordination, it's a grass-roots type coordination that comes from the agencies themselves. And as commendable as that effort has been, unfortunately it doesn't cover all government agency information programs. There are literally hundreds of government information programs.

I was fortunate to have been able to edit recently a directory of Federal health information resources here in the United States, in the government, and there are 188—one of them, of course, is the National Library of Medicine, but there are 187 others besides the National Library of Medicine. There are lots of information programs within the Federal Government.

Mr. **Walgren**. Has there been much attention from the Congress given to the health information in particular, or is that whole range just kind of out there doing its best without much oversight or encouragement?

Mr. **Day**. I believe that each of the agencies' major information programs, such as the National Library of Medicine, has oversight responsibility in terms of—there is oversight responsibility over what they do and how they do it by the Congress. But there are many information programs that do not show up as line items in Federal budgets, and the Congress, I suspect, is probably unaware of the existence of many of those information programs. There are literally dozens of information clearinghouses in the health area alone.

Mr. **Walgren**. The Chair will recognize the gentleman from California. We have a vote and I will excuse myself and try to get back quickly.

Mr. **Brown** [presiding]. Sure. Thank you, Mr. Chairman. Mr. Day, I am very appreciative of the remarks that you've made which do give the members of this Subcommittee—and it will be reflected in the record of this hearing—a historical perspective which is very difficult for members, and particularly new members, to grasp quickly. I don't think many members are aware of the long and extensive efforts that have been to coordinate information policy, in science & technical information particularly.

Is what you're recommending in essence that we reconstitute COSATI? You have suggested something like that but without actually coming out and saying so.

Mr. **Day**. Well, like all government committees, it had its strong points and its weak points. I am suggesting that there be recreated a COSATI-type committee, which I would hope would be built on the strengths of the previous COSATI committee and would certainly try to eliminate some of the weaknesses of that type of committee operation.

Mr. **Brown**. I have frequently indicated that some of our individual S&T information programs are of a very high caliber, and I've mentioned specifically the Library of Medicine and the network of information dissemination that it has created and it's the technological base for doing that and so forth. And in my role on another committee, the Agriculture Committee, I have encouraged the National Library of Agriculture to model their efforts after the National Library of Medicine, and I have seen some indication that they are doing a substantial upgrade.

But the point I think you are making is that there isn't this overall coordination, even between those centers of excellence, that we may have so that we have a coordinated national program; is that correct?

Mr. **Day**. Yes. It seems to me, Mr. Chairman, that before we try to develop Federal information policies it would be desirable to develop a strategy—that has to come from some central type of a coordinating mechanism—a strategy with a number of goals, and to implement the goals we could have a number of policies—these Federal information policies.[9]

We do have Federal information policies. The Congress makes Federal information policy by virtue of its enactment of law, by virtue of its appropriation. But there is no coordination, there is no one group that the Congress can look to essentially, at least in the science and technology area, to act as a focal point for this type of activity.

Mr. **Brown**. Just for the record, I'm going to recall an anecdote which bears out what you have said, and that is that in a conversation I had with Dr. Frank Press after he had left office as the President's Science Advisor,[10] I was talking to him about this problem of science and technology information, and he indicated to me that probably his greatest regret was that he had not done more to encourage the development of a coordinated national effort from the Office of the President to achieve the coordination you are talking about. And he had the authorization to do that, as you have indicated, in the Science & Technology Policy Act,[11] but he did not use those tools. He had an excellent assistant in Phil Smith who had some of this responsibility, but neither of them saw it as the matter of high priority that in retrospect they recognized that it had.

And I want the record to reflect that sometimes our hindsight is a lot better than our foresight.

You have mentioned the role that Senator Humphrey played in this scenario back in the early days. Could you offer a guess as to why he was successful in obtaining action from President Kennedy, while both today and in the previous administration OSTP did not take up the gauntlet and achieve the kind of coordination that is necessary?

---

[9] Mr. Day corrected this paragraph to read: "Yes. It seems to me, Mr. Chairman, that before we try to develop Federal information policies it would be desirable to develop a strategy, that has to come from some central type of a coordinating mechanism; a strategy with a number of goals. In implementing the goals we could have a number of policies—these would be Federal information policies."

[10] Dr. Frank Press, Special Assistant to the President for Science and Technology (1977-1980). Dr. Press is now President of the National Academy of Sciences.

[11] National Science and Technology Policy, Organization, and Priorities Act of 1976, Public Law 94-282 (42 U.S.C. 6601, *et. seq.*).

Mr. **Day**. Well, I think there are a number of factors involved. One, the Senator's party was in control of both the White House and the Congress at that particular point in time. In addition, Senator Humphrey was very successful in putting pressure on the leadership of the R&D agencies. When he would call for hearings, he would ask that the people responsible for the science and technology programs make a report to them on what their information programs were doing. And for the first time, many of them learned what the information programs were doing or were supposed to be doing. And as a result of putting pressure on the top, he had the support of the agencies when he was able to convince the President's Science Advisor to create COSATI as such, since they were also the members of the Federal Council for Science & Technology.

Mr. **Brown**. Mr. Day, are you in a position to recommend any specific changes in the existing law, or do you think that we have an adequate structure, if it were implemented through the interest of the President or other appropriate officials? I'm specifically asking if you would recommend any revisions in Title 15 or 44 of the U.S. Code which would enhance the transfer of Federal technology to the private sector?

Mr. **Day**. Well, in the last 25 years I have been professionally involved in trying to do just that, Mr. Brown, and I personally feel that Federal legislation can't be too strong in this area. The taxpayer has made a major initial investment in R&D for the Government, and if the know-how, the knowledge produced thereby can be used in the private sector, then the taxpayer obtains an additional dividend on his investment.

I have to admit, Congressman Brown, that without the language of that particular title before me, I can't talk specifically about the language that I would recommend here.

Mr. **Brown**. Well, I recognize that I should have provided you with prior warning on that question.

One of the things, of course, that frustrates me as well as you is that merely writing the law or changing the law does not necessarily secure the action that we need. And if you have any magic solution to how we can get the horse to drink after we lead it to water, I would be very grateful to you.

Mr. **Day**. Well, I think there has been a certain reluctance in the White House, at least in this Administration, to have on the White House staff individuals who may appear to lobby for a particular community. I think we see that with the science community as such. The present Science Advisor,[12] I believe, has not been as effective as other directors of the Office of Science & Technology.

Mr. **Brown**. You are not the only one who has made that point, if I may say so. You may have read the Op-Ed piece by Jerry Wiesner a month or so ago making exactly that same point.[13]

Mr. **Day**. I think that we just have to hope that the present leadership will see the light, so to speak, and that the future administration will certainly recognize the need and respond accordingly.

---

[12] Dr. William R. Graham, Jr., Special Assistant to the President for Science and Technology.

[13] Dr. Jerome B. Wiesner, "Why We Need a Tough National Science Adviser," The Washington *Post*, 24 May 1987, p.D1.

Mr. **Brown**. Mr. Day, I'm going to ask you if you would be willing to wait for just a few moments while I go vote, and Mr. Walgren should be returning very quickly. He may want to ask you one or two additional questions, if you don't mind. The Subcommittee will recess for a few minutes.

[Recess.]

Mr. **Walgren**. Let me call us to order, and I only have one other thought that I wanted to raise with Mr. Day, and that was—as I understand it, there is sort of an ad hoc structure now by managers of various technical information offices in the Executive. Would you suggest that that structure be formalized in any sense?

Mr. **Day**. Well, I think the biggest problem that you have with any kind of a grass-roots activity is that it doesn't have a parent which will give it government-wide authority—they can coordinate among themselves; they can coordinate their procedures, their products, their services, their policies, that's fine. But that only applies to those members of that particular group who agree to go along with it; it does not apply to the government across the board.

Mr. **Walgren**. Well, okay. Thank you very much. On behalf of the Committee, we appreciate your being a resource to us and we look forward to talking with you in the aftermath of these hearings. If we can get some thoughts going that might be helpful, we'd like to check them with you.

Mr. **Day**. Thank you very much, Mr. Chairman.

Mr. **Walgren**. Let's turn to David Nathan, the Deputy Assistant Secretary for Special Programs for the Department of Commerce. Secretary Nathan is accompanied by Dr. Joseph Clark, the Deputy Director of the NTIS, for the view from the Department.

Welcome to the Committee; your written statement will be incorporated into the record and we would appreciate your focusing us on some of the things that you feel most important for us to take account of.

STATEMENT OF HON. DAVID S. NATHAN, DEPUTY ASSISTANT SECRETARY OF COMMERCE FOR SPECIAL PROGRAMS, U.S. DEPARTMENT OF COMMERCE, ACCOMPANIED BY DR. JOSEPH E. CLARK, DEPUTY DIRECTOR, NATIONAL TECHNICAL INFORMATION SERVICE

Mr. **Nathan**. Thank you very much, Mr. Chairman. What I would like to do today, if I may, is focus on one issue that I know has gotten the attention of the Committee, and that is the so-called administration's program proposal to "privatize" NTIS. And I would like to focus on just what that proposal is, report to you where we stand and where we would like to go.

I think the first thing to do, however, is to clarify the proposal. The 1988 budget did not call for turning over NTIS functions willy-nilly to the private sector. [14] The use of the word "privatize," in retrospect, was very, very unfortunate. It created a misconception. And in fact, the '88 budget proposal simply said to give the private sector the opportunity to perform some of the functions of the NTIS; there was always the intention of having some sort of residual staff there in NTIS to maintain certain of their activities.

---

[14] "In 1988, the private sector will be offered the opportunity to operate NTIS on contract, with the government retaining overall policy direction." Office of Management and Budget, Executive Office of the President, *Appendix: Budget of the United States Government, Fiscal Year 1988*, 100th Congress, 1st Session, H. Doc. 100-4 (Washington: Government Printing Office, 1987), p. I-F9.

The principal reason behind the proposal is that we would like the Committee to recognize that due to no fault of its own, NTIS is not doing the job that we all would like it to do. Sales have been down, revenues have been down, prices have been increased. And in the past, previous administrations have proposed other solutions to this including establishment of a revolving fund, but for a variety of reasons, has not been successful.[15]

So the Administration believed that in order to create wider dissemination of the materials that NTIS is responsible for, it would be a reasonable approach to give the private sector an opportunity to take over this function under the policy control of the Department of Commerce.

We have done a number of things to try and implement that. First and foremost of those was to see whether or not there was any real interest in the private sector to take this over. And to do that, we issued what we call a "Sources Sought" document back in June [16] in order to ascertain whether or not there is any interest. We also called for a meeting in that document of anybody who wanted to come talk about what we were proposing. About 40 individuals, representing 35 different organizations showed up at that.

We also wanted to take that opportunity to discuss a number of issues associated with this proposal. How do we take care of the employees—we wanted to make sure that they didn't just lose their jobs. Royalties, payments of fees, copyright, and a number of other issues that are involved in this proposal.

We had this meeting on June 16th and, as I said, it was very well attended. So far, in response to what we call our "Sources Sought" we have had about 15 firms respond, including organizations like McGraw-Hill, Dun and Bradstreet, University Microfilm, all of which are fairly large companies and have had a good deal of experience in this type of activity.

The basic assumption under which we have been operating—and it was made very clear by Secretary Baldrige [Hon. Malcolm T. Baldrige, late Secretary of Commerce]—is that we are not going to go ahead with this proposal unless it makes sense for the Federal Government. And certainly we are not going to go ahead with this proposal if it any way denigrates or detracts from the basic responsibility of NTIS; that is, getting this information out to the private sector.

We are in the process right now of analyzing the responses we received to our Sources Sought. Very shortly we will be making some recommendations to all policy officials on what the next step should be, one of which of course would be to issue an RFP [Request For Proposal]. We still have some issues to resolve, and everything is tied up, not the least of which is how we maintain the ability to get the information from the various agencies that already contribute to the NTIS inventory. And that may require some action on the part of OMB [Office of Management and Budget]; certainly Department of Commerce can't require that.

---

[15] Secretary Nathan revised this sentence to read: "And in the past, previous administrations have proposed other solutions for this, including establishment of a revolving fund but, for a variety of reasons, these proposals have not been successful."

[16] "Privatization of the National Technical Information Service," *Commerce Business Daily*, 10 June 1987, p.9.

Incidentally, listening to Mr. Day it reminds me that 20 years ago when I was at the old Bureau of the Budget I was writing a directive requiring all agencies in the Federal Government to contribute all their reports, Federally-financed R&D reports, to NTIS. That directive was never issued and there's never been one issued since I believe.

So we are considering what approach we should take. We also have identified another option which is a Federal co-op option, a form of contracting out, and under that situation the Federal employees would have a job and would get a financial stake in the organization.

Within the next month or so we should be in a position to decide whether or not an RFP would be appropriate—a Request for Proposal or a formal procurement request—and of course before doing that we intend to continue to consult and keep the Committee informed.

That is where we are, sir.

[The prepared statement of Secretary Nathan follows:]

STATEMENT OF
DAVID S. NATHAN
DEPUTY ASSISTANT SECRETARY OF COMMERCE
FOR SPECIAL PROJECTS
BEFORE
THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY

JULY 14, 1987

ENHANCING THE OPERATIONS OF THE NATIONAL TECHNICAL INFORMATION SERVICE

Mr. Chairman, I want to thank you for inviting the Department of Commerce to participate in these hearings on scientific and technical information policy. I shall speak today about the National Technical Information Service, and about this Administration's plans for improving its performance.

NTIS plays an important role in making available to this country's scientists the results of research and development programs funded by the Federal government. It is also very successful in obtaining and disseminating the results of research projects conducted in other countries. NTIS presently collects scientific and technical reports from virtually all Western European countries, and has taken on additional responsibilities under the Japanese Technical Literature Act of 1986. This flow of research results is crucial to the competitiveness of U.S. firms in both domestic and world markets. Accordingly, the Administration wants to make sure that this important mission is continued and strengthened in the years to come.

We must recognize, however, that the present structure of NTIS may not be the best means of carrying out the important mission that it serves. The number of technical reports that NTIS disseminates has been shrinking at an alarming rate in recent years. Where one decade ago NTIS sold 900,000 technical reports, today sales have been cut in half, to only 450,000 reports sold in 1986. This decline has many causes, including increased distribution of documents by the Defense Technical Information Center, and a decline in the number of new reports that other agencies are providing to NTIS.

Probably the single largest cause of the decline in sales, however, is the dramatic increase in the price of NTIS products over the last ten years -- in many cases increases have been greater than threefold. These price increases are caused by steadily increasing costs of production for NTIS. While many of the factors causing a decline in NTIS sales are beyond our control, we can take actions to control costs, and hence the price of NTIS documents.

In an effort to do this the Administration has made several legislative proposals, in 1983 and 1984 seeking the establishment of a revolving fund that would have permitted NTIS greater authority to purchase modern equipment, and in 1985 and again in 1987 seeking authority for NTIS to procure its printing from the least expensive source, whether the Government Printing Office or elsewhere. None of these proposals were enacted by the Congress.

Under these circumstances, President Reagan's budget for FY1988 proposed that the private sector be offered the opportunity to operate NTIS, with the government retaining overall policy control. It seems likely that private sector expertise in marketing information products and services might succeed in bringing NTIS technical reports to a much wider audience in this country. For this reason, the Administration has begun to explore privatization alternatives for NTIS. Many issues must be resolved before a step of this kind becomes possible or prudent, however. Among these issues are:

- Designing a mechanism that will assure that all NTIS functions will be carried out by the private operator, particularly the archival function;

- Finding a means to assure that other Federal agencies will continue to provide their materials to a privately operated NTIS;

- Ascertaining whether any firms in the private sector are in fact interested in operating NTIS, and if so, under what terms.

The last is a serious question, in light of the fact that by law most NTIS reports carry no copyright. The practical effect of the absence of copyright is that any private operator of NTIS must accept the risk that third parties may choose to sell NTIS reports, and that neither the Federal government nor its contractor have any legal power to prevent it.

In order to explore these issues with the private sector, on June 9 the Department of Commerce issued a Sources Sought request in the Commerce Business Daily. The Sources Sought document contained a description of two privatization options that the Department is now considering. The options are not mutually exclusive. The first is a no-cost contract under which the contractor would retain most of the revenue from the sale of NTIS products and services, returning only enough funds to the Government to pay for a small group of employees who would serve as a focal point for the collection of reports from other agencies and foreign governments. The second is the so-called Federal Employees Direct Corporate Ownership Opportunity Plan, or "FED CO-OP". Under this option, the contractor would offer jobs to current NTIS employees who wish them, as well as stock in the new contracting firm. Again, a small core group would remain in the Government. The NTIS Patent Licensing Program might remain in the Department, or might be contractor operated.

The Sources Sought also announced a meeting for potential bidders on June 16. That meeting was attended by representatives of over 30 companies, who heard presentations on the FED COOP concept and on the no-cost options for contracting out NTIS. The open period for responses to the Sources Sought ended on June 30, and my staff is presently analyzing the responses before deciding on the most appropriate course to follow in this matter. Our preliminary analysis indicates that companies were not adverse to FED CO-OP as a means of addressing employee concerns about privatization. I want to again emphasize that my position on privatization is that we will only do it if it makes sense and if it is a good deal for the Government and for the users of NTIS products and services.

I would like to turn now from the efforts of the Administration to enhance the functioning of NTIS to similar efforts now underway in the Congress. Mr. Chairman, you have introduced H.R. 2159, the National Technical Information Act of 1987, which would establish NTIS as a government corporation. In addition, Rep. Brown has introduced H.R. 1615, which would consolidate all Federal government information sales programs, including NTIS, into a Legislative Branch Government Information Agency. While each of these efforts is to be commended for recognizing problems which exist in the marketing of NTIS and other government information, we cannot support either one.

The reason that the Administration has proposed giving the private sector the opportunity to operate NTIS is simply that the private sector may prove better able to do the marketing of technical reports than any governmental organization. No private sector firm seeking to market a product is constrained in the many ways that NTIS is constrained by bureaucratic requirements. Among these impediments to efficient operation is a cumbersome personnel system; statutory requirements that NTIS procure printing services from the Government Printing Office without regard to cost, timeliness, or quality; and the large administrative overhead that all government agencies must have to prepare and justify annual budgets and meet other administrative requirements.

H.R. 2159 tries to solve the flaws in NTIS' ability to market technical reports by making NTIS more like a private business. In seeking to convert NTIS into a government corporation, H.R. 2159 adopts the premise that led to the Administration's privatization initiative for NTIS. But in doing so H.R. 2159 creates a government corporation that retains many of the worst aspects of both a government agency and a private business. For example, the proposed National Technical Information Corporation would be freed of many of the procurement rules contained in the Federal Property and Administrative Services Act of 1949. The Federal procurement system as it exists today is a safeguard in the public interest against the wasteful or fraudulent expenditure of public funds. I see no valid reason for the removal of those safeguards.

Nor is this the only poorly conceived provision of the bill. The new government corporation would be permitted to retain all income and royalties from its licensing of Federal patents. This directly contravenes the policy considerations of the Technology Transfer Act of 1986 that seek to place incentives and control over inventions in the laboratory that created them. Incentives for Federal laboratories to invent, to report what is invented, and to encourage the commercialization of inventions would be destroyed, since neither inventor nor laboratory would in any way benefit from the Corporation's success in its licensing efforts.

Other objectionable features of the bill include the Corporation's ability to borrow up to $20 million without any justification or approval of the expenditure of the monies by any official outside of the Corporation; the cumbersome legal process by which the Attorney General is empowered to sue the Corporation if it violates the law -- if the Corporation remains under the "direction and supervision" of the Secretary of Commerce such litigation would contravene the Constitutional requirement of a unitary Executive and such lawsuits would necessarily be non-justiciable. Finally, the establishment of an advisory committee for the Corporation would be unnecessary and costly. In sum, I see no benefits, and several problems, in establishing NTIS as a Government Corporation.

I will limit my comments on H.R. 1615 to three observations. First, if this bill is intended to create a so-called "independent agency", we strongly object. Whatever the status of such agencies in constitutional law, this further creation must be viewed as antagonistic to the three branches plainly established by the

Constitution. This type of hybrid agency dilutes accountability to the public since it is not clearly answerable to the direction of any branch. Moreover, a service organization of this type, were it ever to be implemented, would be appropriately placed within the Executive Branch. Second, the definition of "government information" contained in the bill is so sweeping in its scope that it would seem to include virtually all unclassified documents and technical data in the possession of the Federal government. The practicality and usefulness of collecting all such material and offering it for sale to the public is dubious at best. Further, while much of the material covered by the bill would have limited commercial value, software, engineering drawings and other forms of technical data may have substantial commercial value. For this reason, the President, in section 1(b)(6) of Executive Order No. 12591 of April 10, 1987, directed that policies be developed to permit contractors that develop technical data in work for the Government to take rights to that data. Otherwise, this technical data will remain underutilized. Moreover, the provisions of H.R. 1615 conflict directly with those of the Freedom of Information Act in a particularly crucial respect. The broad sweep of the bill's definition of "Government Information" includes several categories of records which have been held to be exempt from public access under the FOIA. For example, the courts have consistently recognized protection under Exemption 5, 5 U.S.C. 552(b)(5), for analytical reports submitted by individuals conducting federally sponsored research, as well as for the Government's own internally developed, commercially valuable information.

In conclusion, I would look forward to working with members of this committee to design ways to enhance the functioning of NTIS. Among the means at hand to do this may be bringing private sector marketing skills to bear in the marketing of NTIS reports, exluding NTIS from the requirement to obtain all of its printing from the Government Printing Office, and finding ways to bring new technologies to bear in the operation of NTIS.

Mr. WALGREN. We appreciate that statement. When you said you have several issues still left to resolve, can you elaborate on that?

Mr. NATHAN. Sure. As I said, one of them is how do we keep getting Defense Department, Department of Energy and so forth contributing and sending over their materials to us when the organization—the function is being contracted out and being performed by the private sector.

I think where we are coming down on that is that, as I said, we all recognize there needs to be some residual staff at the Department to monitor the contract and to carry out certain functions that we are not going to contract out. I think that for right now we would probably continue that process of having the materials sent directly to the Commerce Department.

We have to make sure that the employees don't lose their jobs. Potential bidders are not likely going to get any copyright protection. And as I said, one of the options we are looking at, a modification of the contracting-out proposal, is the Federal Employee Direct Corporate Ownership Opportunity Plan proposal. Incidentally, we're meeting with employees of NTIS this afternoon to talk a little bit more about how that would affect them and just what's involved. We haven't yet decided whether that is the appropriate way to go or straight contracting out, or if it doesn't make sense at all, whether we should do it.

Mr. WALGREN. How does that affect them?

Mr. NATHAN. Well, under a Fed co-op, whoever wins the contract would be required to permit these employees to have a stock in the corporation, or in the company, whatever it is. They would be required to hire these people and make them a part of the operation. Those are the two principal features.

This is, frankly, a relatively new program that the Office of Personnel Management is very interested in. They are looking at it, I understand, in several other areas as well.

Mr. WALGREN. To what do you contribute the decline in the numbers of publications that are marketed—not the numbers but, I guess the volume.

Mr. NATHAN. As I understand it, some of the federal agencies have cut down on the number of documents they have sent over. Prices have increased. NTIS does not have a separate appropriation; it is completely self-sustaining, so they have a difficult time raising money other than through price increases. You can only do that so much. They have limitations on the way they can use their money for capital improvements. We've made some proposals over the past years to try and eliminate that problem.

And I think—and again, I clearly am not criticizing NTIS, but the Government as a whole is not a good marketeer. If a contractor takes over this, while they will be required to carry the full inventory of all the publications that NTIS has and to maintain those, I see them targeting the potential uses of some of this information better than NTIS is able to do now; tailoring certain reports for people. Thats what these companies are in the business for. And hopefully, at the risk of being naive, perhaps even being somewhat more successful in getting this technical information and other information out to the people who can use it the best and making some money at it at the same time.

One of the other issues that we have, but we're fairly clear on, giving some return to the Federal Government because we are talking about royalties and fees as well.

Mr. **Walgren**. Let me ask Dr. Clark, do you have any light to shed on why the volume of transfers to purchasers is apparently down, and when did it start to go down, and how completely is it down?

Dr. **Clark**. There has been a decline in the input, and I think Mr. Nathan has put his finger on some of the principal causes for the decline, what we call workload, which is a direct measure of the end—the number of copies of reports that are sent out from NTIS in response to orders.

There has been a decline in the number of technical reports coming in. There has been an increase in the number of items that are essentially computer-based related pieces of information; software, computer-readable data files, and things of that nature. So in fact the total number is level.

In addition, the increase in the amount of information that we have gotten from abroad in the past five to ten years has also tended to keep the total input level of about 70,000 items per year steady, but the mix is changing. And I think as that mix has changed, we have needed to adapt our marketing and distribution mechanisms probably differently than in fact has happened.

So I think the market has changed, input has changed, certainly we have needed to increase prices. There have been modest increases but we have needed to increase prices in order, if nothing else, to keep up with inflation.

And I think there is one other item which we are frequently told, and that is that our customers are smarter buyers now than they were perhaps 10 years ago. With the advent of computer technology it is much easier now to get a fix on precisely which information item is in our inventory that is required. The computer can search and be much more effective at that search than an individual human being can in a reasonable period of time.

Mr. **Walgren**. What is the mix of foreign entries? Percentage foreign.

Dr. **Clark**. We currently receive about 25 percent of our materials from outside the United States, and that consists of materials that are given to us by other Federal agencies—for example, Department of Energy has a very aggressive foreign acquisition program—and also, other materials that we ourselves obtain directly through our cooperating organizations in 60 foreign countries.

Mr. **Walgren**. When you receive 25 percent from abroad, is there a greater demand for that kind of material in percentage terms than there is for the other three-quarters of the materials that you have?

Dr. **Clark**. We have looked at the demand with exactly that question in mind and haven't seen a statistically significant difference in the demand for foreign source material as compared to domestic source material. The subject area seems to be the principal determinant of demand. Superconductivity, for example, is hot.

Mr. **Walgren**. Do you feel that there would be any impact on the interest of foreign providers of information to continue to provide if we were to privatize or to substantially put a private decisionmaker in the system?

Mr. **Nathan**. Well, it is our intention under this proposal to retain that responsibility of working with the foreign governments in the Department and retain some staff to do that. We are not going to rely on a private contractor to do those negotiations for us. So, presumably, I could see no reason off the top of my head why they would be any less reluctant, for simply what we're talking about is the method of distribution, not the method of acquisition.

Mr. **Walgren**. Let me recognize the gentleman from California and perhaps ask if he would take the Chair for a period of time.

Mr. **Brown** [presiding]. Thank you, Mr. Chairman. Dr. Nathan, in your statement on page 2, where you mention a declining number of NTIS technical reports are being sold, you identified one cause as being the increased distribution of documents by the Defense Technical Information Service and a decline in the number of new reports that other agencies are providing to NTIS. Could you elaborate on that just a little bit, and particularly in the light of my understanding that the Administration has reduced the budget of the Defense Technical Information Service, or proposed a reduction, of about $3 million. Is this a fact, and if so, what is this doing to the Defense Technical Information Service?

Mr. **Nathan**. Mr. Brown, I must plead ignorance on the budget situation of the Defense—I am just reporting here information that we have obtained from NTIS, and just on the basis of the record that there appears to be a decline in the documents that we are getting. I don't know whether frankly, that's because the Defense Technical Information Service—maybe Dr. Clark knows—has simply decided, "well, we are going to do it ourselves" or because of budget reductions, they're not producing as much or what the particular circumstances of that are.

Mr. **Brown**. Well, is it related to the fact that the Defense Department's overall budget, as well as their R&D budget, has effectively doubled during the last six years? Has this generated a corresponding number of technical documents that are being distributed through their own internal sources?

Mr. **Nathan**. Do you have any information on that?

Dr. **Clark**. I would just share with you, Mr. Brown, one curious statistical correlation that we have uncovered in asking ourselves that kind of question.

It seems that the larger the defense contracting budget is, the less demand there is for certain of our reports.

Mr. **Brown**. The less demand there is for certain of your reports.

Dr. **Clark**. Right. Now, I don't know what the logical inference is that one might draw from that, but if you do a statistical correlation, pure numbers, number of dollars for defense contracting as compared to demand for certain NTIS reports, it's an inverse correlation. And that's counter-intuitive to me, but there seems to be something there that needs further investigation.

Mr. **Brown**. Well, that is an interesting point and probably should be investigated.

There is another phenomenon; I don't know how important it is and I'll ask you to comment on it. There was an effort made several months ago[17] to create a new classification of technical information called "sensitive but unclassified" which led to a number of sources of such information being somewhat more reluctant to publicly disseminate it lest it run afoul of restrictions on the "sensitive but unclassified" material.

In your observation, has there been such an impact? And actually, this order creating this was actually withdrawn.[18] But I have heard, and I am asking you whether you have any information that it did have an effect in reducing the number of documents that were made available for public distribution.

Dr. **Clark.** I have not seen any impact on our input from the Defense Department.

Mr. **Brown.** Do you have any information on that?

Mr. **Nathan.** None whatsoever.

Mr. **Brown.** We have had some experience in this Committee with the privatization of certain functions of the government, and I point to the EOSAT[19] example which is an information-producing operation, and the privatization efforts really have been a total mess, if I may describe it in that way. Would you care to comment as to why you are optimistic that the privatization efforts of NTIS would create these vast new markets and improved efficiencies when EOSAT did not?

Mr. **Nathan.** If I may, sir, I think the comparison with EOSAT is a little bit unfair. We're talking about——

Mr. **Brown.** We like to be unfair sometimes. [Laughter.]

Mr. **Nathan.** Never promised to be fair, all right.

I guess really the basic difference as I see it, here we are dealing with a fairly established marketing procedure; we're dealing with activity that people in the private sector have been engaged in for many, many years. LANDSAT has been—if that's what you are referring to—LANDSAT[20] has been in the air I guess for several years. It has been perceived pretty much as a governmental function, up until recently, but the private sector has had a wide amount of experience in dealing with information and knowing exactly where the customers are, who wants what or certainly being able to find out; has the resources to tailor the publications for these individuals.[21]

---

[17] Congressman Brown refers to the "National Telecommunications and Information Systems Security Policy 2", issued October 29, 1986. This policy statement defined "sensitive but unclassified information" to be

". . . information the disclosure, loss, misuse, alteration, or destruction of could adversely affect national security or other Federal Government interests. National security interests are those unclassified matters that relate to the national defense or the foreign relations of the U.S. Government. Other government interests are those related, but not limited to the wide range of government or government-derived economic, human, financial, industrial, agricultural, technological, and law enforcement information, as well as the privacy or confidentiality of personal or commercial proprietary information provided to the U.S. Government by its citizens."

[18] Hon. Frank C. Carlucci, Assistant to the President for National Security Affairs, by letter dated March 17, 1987, addressed to the Hon. Jack Brooks, Chairman, Committee on Government Operations, U.S. House of Representatives.

[19] EOSAT is the acronym for the Earth Observation Satellite Corporation.

[20] Land Remote Sensing Satellite, operated by EOSAT under contract to the National Oceanic and Atmospheric Administration of the Department of Commerce.

[21] Secretary Nathan revised this to read: "It [LANDSAT] has been perceived pretty much as a governmental function, until recently. The private sector has had a wide amount of experience in dealing with information and knowing exactly where the customers are, who wants what or certainly being able to find out; has the resources to tailor the publications for these individuals."

But I just think that the two activities are—the one that we're talking about, the distribution and sale of information, is one that the private sector is thoroughly familiar with. It has had obviously a great deal of experience with it.

So we are at least optimistic to the point of view that there is the experience out there, apparently there is the interest—all right. But again, and I can't say this too often, we are not going to do it unless it makes sense.

Mr. **Brown**. Well, I am encouraged by your pragmatic approach to the problem; I think we want to do what makes sense here. But there are certain very important benchmarks as to what makes sense. We don't want to lose the valuable archives that exist here. Now in the case of LANDSAT, the Government retained title to the archived information; with EOSAT, the new private corporation, having the responsibility to sell them at a profit but the Government retaining title to the archives.

Now, you are examining this question, as I understand it.

Mr. **Nathan**. Whether we retain title or not we will have to look at. Certainly, one of the conditions of the contract is that inventory has to be maintained by the private contractor. This is not an option.

Mr. **Brown**. That is not an option; all right. That is reassuring if the deal goes through, which I fervently trust it will not.

But the other thing that bothers me a great deal; you pointed to the decreasing willingness or apparent willingness of the Federal agencies to bring their documents to NTIS. Have you got some magic by which a private organization is going to reverse this?

Mr. **Nathan**. And as I also indicated, 20 years ago I was working on this problem—obviously not very effectively and there still isn't a policy. And I have told OMB that it is not an issue that the Department of Commerce can settle; it's an issue that needs to be settled at their level.

One option, certainly, is to finally issue a directive with some teeth in it that says, "By God, whether we don't contract out or whether we do contract out, they must send their materials to NTIS."

You know, if I were in the private sector, to be perfectly blunt about it, that's an assurance I think I would like to have.

Mr. **Brown**. Well, I think it's an indispensable assurance; otherwise, they face a diminishing volume of business.

Mr. **Nathan**. The same spot NTIS is in. And as I say very frankly, that is an issue that needs to be resolved.

Mr. **Brown**. Does the Administration have the current authority or would it require new law in order to mandate the greater utilization of NTIS? In other words, require the various Government agencies to make use of it.

Mr. **Nathan**. Well again, during my own experience, when I was working on that issue specifically, there was no new law required. It was just simply under existing authority of whatever that was back in those days, and I don't remember. I don't believe it would need new legislation. I think that's a basic management prerogative of—

Mr. **Brown**. Since this Administration, along with many others, has contended that they can declare war and carry on foreign policy without any new legislation, you would think that they would be able to handle a little job like this.

[Laughter.]

Mr. NATHAN. I learned a long time ago, sir, there are certain questions you just don't respond to, and I think this is one of them. That's why I've survived for 30 years in this government.

[Laughter.]

Mr. BROWN. Well, this gives me an opportunity to compliment you on your ability to survive.

[Laughter.]

And also on the recommendation that NTIS should be allowed the authority to produce their product at the lowest possible cost, whether or not that involves going to GPO [Government Printing Office] or to using private sources.

Go over for me again why this isn't being done in the light of the fact that the GPO apparently contracts out most of its printing anyway. Why can't the NTIS contract out its printing?

Mr. NATHAN. As I understand it, we are required to go to the GPO. And as I recall, we submitted legislation to the Congress to alleviate that requirement, and as I also understand it, it was decided that the bill would not be considered.

Mr. BROWN. Well, I think that was a good recommendation and I think the recommendation that you refer to with regard to seeking the establishment of a revolving fund was a good recommendation. Now, I want the record to reflect, if you gentlemen recall, what it was that happened to those recommendations. I don't recall that this Committee acted adversely to them [22] and I want to pinpoint who the villains are in Congress. And we have a lot of them, believe me.

Mr. NATHAN. Well, that was I think in 1983, and in '84 we submitted both a budget request of $5 million and appropriate legislation—you have to obviously have legislation to establish the revolving fund. And my recollection, and perhaps Joe's is crisper than mine, is that legislation never got considered at all. And I don't recall, sir, which Committee had jurisdiction over it.

Mr. BROWN. Mr. Clark, do you have any——

Dr. CLARK. I am told that this Committee did act favorably on that recommendation.

Mr. BROWN. I see. But you can't identify the Committee that acted unfavorably.

Dr. CLARK. I suspect—I am told that it is the Energy and Commerce Committee.

Mr. BROWN. That's what I am told, also.

Well, may I express my regret that that happened, but let me ask you something else, Mr. Nathan. You offered substantial objections to empowering the proposed corporation to borrow money which would have been used for the same purpose. Now, can you explain that?

Mr. NATHAN. Within the context of a government corporation, I really believe that the objectives of this Committee and what we are proposing are pretty much the same. I think our objection, in addition to the specific ones, is frankly, government corporation is a rather cumbersome approach to this problem. Government corporations that I am familiar—and God knows I am not familiar with all of them—lending institutions, Fannie Mae [Federal National Mortgage Association], Federal Home Loan Bank, some of those, very large amounts—we're talking billions of dollars, hundreds of millions of dollars—are very strict banking operations. NTIS is relatively—certainly compared to the size of those organizations—relatively small, and a government corporation under the Government Corporation Control Act requires numbers of reports, certain accounting procedures. We have an advisory committee if I recall correctly, and a lot of other management paraphernalia as again—frankly, with all due respect, I can only describe as somewhat cumbersome in relation to the problem that we're talking about.[23]

---

[22] See "Technical Information Clearinghouse Fund Act of 1983; Report to Accompany H.R. 2514," Report by the Committee on Science and Technology, U.S. House of Representatives, 98th Congress, 1st Session; H. Rpt. 98-94, pt. 1.

It has also been my experience that government corporations sometimes get a bit out of—let me make sure I say this right—difficult to exercise control over. Again, it goes back several years since I have been somewhat involved with some of these.

Here I think we're not talking about a complex operation, we are not talking about loans and defaults and all those things; we're talking about strictly getting information out in the most sensible way and to the widest audience that we possibly can do it, which is what NTIS was created for. The corporation approach was a little bit of an overkill.

Mr. **Brown**. But, Mr. Nathan, you have pointed quite properly to the fact that one of the problems with NTIS is that they do not have the resources necessary to modernize their facility and take advantage of the latest technology for cost reduction. If the corporation is privatized, the first thing that the private corporation will do will be to inject that money, whether they borrow the money or whatever, and yet you're objecting to the proposed government corporation having exactly the same prerogative that the private corporation has.

Mr. **Nathan**. Well, if I recall the provision, that the authority to borrow will be from the Federal Finance Bank.

I think the major difference is that we're leaving it up to the private sector to modernize facilities, that they're going to have to invest the kind of capital that is necessary to make this a profitmaking operation for them. And our view is, simply, let the private sector do it. Let them be responsible for getting the money.

And I may suggest the other thing that goes along with that is that probably they have somewhat greater experience in the whole market operation than we normally have in the Federal Government.

---

[23] Secretary Nathan revised his response to read: "Our objection, in addition to the specific ones mentioned in my statement, is frankly, a government corporation is a rather cumbersome approach to this problem. Government corporations that I am familiar with—and God knows I am not familiar with all of them—lending institutions, Fannie Mae, Federal Home Loan Bank, some of those are very large—we're talking billions of dollars, hundreds of million of dollars—are very strict banking operations. NTIS is—certainly compared to the size of those organizations—relatively small. A government corporation under the Government Corporation Control Act requires numbers of reports, and certain accounting procedures. We have an advisory committee, if I recall correctly, and a lot of other management paraphenalia. Again, with all due respect, I can only describe as somewhat cumbersome in relation to the problem that we're talking about."

Mr. **Brown**. Mr. Nathan, the superficial objection which I hear voiced and which I voice myself frequently to the proposal that the Administration is making—and I understand that you're going to approach it cautiously and so forth—is that we have an existing operation which, with whatever minor flaws it has, is performing a vital public function and it is doing so at no cost to the Government. It doesn't seem to me that that should be the highest priority for getting rid of.

Mr. **Nathan**. This proposal—and it's my fault, when I tried to clarify what was being proposed I should have mentioned that saving money is not the principal objective of the proposal; the principal objective is what I described.

Mr. **Brown**. Yes, it's to improve the operation.

Mr. **Nathan**. To improve the basic function. We all want to get this information out there. I think we all agree, NTIS is having some problems under the current arrangement. These proposals have not been acceptable for one reason or another. The current ones that are being proposed by members of the Administration are not supported, so the proposal that we have here we feel is the most direct way of trying to achieve it. They've been paying their way for several years now. I remember the old clearinghouse days when they weren't. Not to save money, but to get the information out to more people.

Mr. **Brown**. What happens if the private operator goes bankrupt, as the EOSAT corporation apparently is going to do before very long. You got a fall-back position?

Mr. **Nathan**. I guess what we will have to do is take it over. You know, we will have some residual staff in the Department of Commerce. If, in fact, the level of interest continues by the type of corporation that has shown interest in this, you know, I frankly don't see that as a major possibility. And if we get to the point where we write the RFP, lay out all the conditions, we'll have to make sure that they will be in a position to meet them.

Mr. **Brown**. We thought that about EOSAT. It was a consortium or a combination of two of the largest corporations in America, but they protected themselves; that is, they formed a separate corporation and when that corporation doesn't make money they go bankrupt.

Mr. **Nathan**. I understand there is another proposal—I really don't want to get into this because I haven't been that close to it, but another proposal concerning the future of LANDSAT 4, 5, 6 and 7.

Mr. **Brown**. Well, this isn't a LANDSAT hearing.

Mr. **Nathan**. It's a little bit different.

Mr. **Brown**. Mr. Chairman, I have harassed the witnesses enough. I will yield back to you.

Mr. **Walgren**. That is our function. [Laughter.]

Let me just say that we would like to receive some more information on this federal co-operative plan. We, as a Committee, feel that we would like to know more about it, and whether there is enough for you to send us something or whether we should direct a—why don't you send us something for the hearing record and we would follow up with you and develop the points that we think——

Mr. **Nathan**. Be happy to do that, Mr. Chairman.

Mr. **Walgren**. Thank you very much; we appreciate your coming forward. Let's turn to a number of witnesses from various user organizations, and I would like to call the next four together. Representing the American Library Association, Mr. Harold Shill from West Virginia University; from American Association for the Advancement of Science, Dr. Trivelpiece—nice to see you again, Dr. Trivelpiece. Dr. Trivelpiece is the Executive Director of the American Association for the Advancement of Science. From Association of Research Libraries and Association of American Universities is John Shattuck, who is Vice President for Government, Community and Public Affairs at Harvard; and the Council of Scientific Society Presidents, represented by Professor Martin Weingartner of Vanderbilt University.

If you folks would come forward, your written statements will be made part of the record without more, and I would ask you to focus on some points that you think you can give some life to in eight minutes or so and will help us concentrate our thoughts.

Let's go in the order in which I called you, so first we will turn to Mr. Shill.

STATEMENTS OF HAROLD SHILL, CHAIR, LEGISLATION ASSEMBLY, AMERICAN LIBRARY ASSOCIATION; ALVIN TRIVELPIECE, EXECUTIVE OFFICER, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE; JOHN SHATTUCK, VICE PRESIDENT FOR GOVERNMENT, COMMUNITY AND PUBLIC AFFAIRS, HARVARD UNIVERSITY, ON BEHALF OF THE ASSOCIATION OF RESEARCH LIBRARIES AND ASSOCIATION OF AMERICAN UNIVERSITIES; PROFESSOR H. MARTIN WEINGARTNER, VANDERBILT UNIVERSITY, ON BEHALF OF THE COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

Dr. **Shill**. Mr. Chairman, I'd like to thank you very much for the opportunity to testify before the Committee, and I would like to express the library community's appreciation to you and to the Committee for the initiatives that you have taken in the Japanese Technical Literature Act and also, in prohibiting through H.R. 2160 further contracting out of NTIS activities. These are very much appreciated by librarians and by much of the user community.

I bring the perspective of a librarian working at a land grant institution. I serve clienteles in engineering, agriculture, computer science, forestry and education and several other disciplines. I have direct contact with users in the library context and also with small businesses that we serve on the outside, and we are in a university where we, as a full Government depository, receive GPO publications. We also receive a large number of NTIS, DOE, USDA and Department of Education documents. Our collection of NTIS documents is approximately 400,000, which is, I believe about 20 percent of the total collection there.

The libraries are providing repeated and regular access to the same documents. I think we provide a certain kind of value-added ourselves in letting the same people use them repeatedly, which is of great benefit in dissemination to the ultimate user community. We are very interested in the content of the documents themselves; we don't view them as a discrete product, rather as identical products. We view them as a discrete product, rather than as identical products. We view them each as an individual report of an intellectual effort. We are very concerned about bibliographic access to them, particularly through good indexing, and the availability of documents, particularly in a repository.

The approach I'd like to take in the eight minutes or so that you have allowed is to first talk very briefly about the foreign and domestic information policy context, and Mr. Day has covered much of that so I'll skip over some of that; to talk about the present structure and improvements including a few comments on H.R. 1615 and H.R. 2159; to give a few of my own thoughts on the public and private roles in the collection, processing and dissemination of government scientific and technical information; and to discuss an improved mechanism for providing policy guidance, which is something I believe the Committee has sought. I am going to make several assumptions here, and I'll use the acronym STI for scientific and technical information,

First, that there is no real existing scientific and technical information policy right now. We have a number of mini-policies addressing components of it in areas like telecommunications, postal subsidies, copyrights, privacy and the Freedom of Information Act, but there has been a policy void in this area since COSATI went out of business in 1972.

I also think it's rather arbitrary to view information policy apart from the ends that that policy serves, such as developing a coherent science policy, supporting our research objectives in these areas, and supporting technology transfer. And I would also say that policy success criteria would include the broad dissemination of the products of government research, intellectual access, retention through archives, and also an impact on end user productivity.

46.5 percent of our research today is Federally funded, 50.1 percent privately. Most of that is proprietary in nature and not available to the rest of the potential user community, so the Federally-produced information has a great deal of importance. As was mentioned earlier, only about 25 to 30 percent of the research done today is produced in the United States, but 50 percent of all major innovations in the last 30 years have come from small firms, according to the journal *Business America.*

We are experiencing a change in the research environment as we become more and more involved with businesses, both small, as a servant to them, and larger corporations, getting research grants from them.

We have had some reference to the policies of other governments. The Subcommittee last year learned a great deal about the Japan Information Center of Science & Technology, which has very assiduously collected, translated, indexed and disseminated a great many foreign documents which are probably a major factor in Japan's technological advance.

The USSR has been doing this since 1952. France does this. Others with a very active information policy include Sweden, Brazil and Canada, too.

When I testified before the committee on the Japanese Technical Literature Act back in March of 1986, one of the things I discovered in my own research was that a great many Federal agencies were doing translation activities without coordination, so I would agree with the previous witnesses who have said that there is not much coordination in some of these areas. Those included USDA, the Foreign Broadcast Information Service, NTIS and the Office of Naval Research, among others.

And I would also say that the NTIS effort is the most systematic in getting access to the foreign literature with about 26 percent of that collection now emanating from foreign sources.

The present structure we have includes the Federal Depository Program and distribution programs of NASA, sales programs such as that of NTIS, USDA and the Defense Technical Information Center. Improvements I might recommend in the current system would include placing more documents in the Depository Library program, or at least indexing them so we can know they exist, through the *Monthly Catalog of Government Publications*; a unified technical report index or database, perhaps combining access in one source to the technical reports in NTIS, the NASA files and the Defense Department files; lowering the costs of some of the NTIS documents in particular which are sold; and providing electronic access to the Depository Library programs.

One of our experts in librarianship, namely, Wilfred Lancaster at the University of Illinois, has estimated that about 50 percent of technical reports done will be available exclusively in electronic form by the year 2000, so we are very interested in seeing that electronic access to depository materials progresses.

H.R. 1615 is very attractive to a lot of the library community as a single-stop source for Government materials, rather than going through a number of different agencies. As written right now, we do see a couple of problems with it. I am not really finding any library or archiving provisions in there; perhaps I haven't read it closely enough, but I am not seeing them right now. That is a concern, that the documents be permanently retained.

We're concerned that the contracting-out provisions in Section 114 are a little bit too broad and would permit virtually any contracting out for any part of the Government Information Agency's responsibilities. We are concerned that we may not really see any depository provisions, especially for the bibliographic tools from NTIS. I did not find any mention of indexing, which is crucially important to permit people who want to use these documents to identify that they exist in the first place. And there is no mention of dual distribution of documents in both paper and microfiche, as is now done through the Depository Library Program for many documents.

H.R. 2159 includes many of the functions which we feel are essential to the NTIS mission; of course, we're just focusing on NTIS here and not all the Government information programs. It does provide a central source and permanent access for Federal, foreign, state, and local documents. It provides bibliographic access through maintaining the *Government Reports Announcements and Index.*

It provides for the dissemination of bibliographic information-publications such as catalogs, indexes, abstracting services, et cetera, through the existing Depository Library Program. It is very important that we get those free. At my own institution we have not had an increase in our materials budget in three years, and higher education in my own state is facing a 4.5 percent cut this coming year, and we are also seeing 30 to 40 percent increases in the prices of European journals as the dollar weakens in relation to European currencies. So that is a very important consideration for us in providing access for our own researchers and for small business.

We also like the on-demand sales program at affordable prices for libraries, education institutions, business and faculty members. And we are pleased that the Japanese Technical Literature Act functions are included there, delegated to the Secretary of Commerce as they were in that Act, too.

We have some reservations about Section 17(k)(iv), about the dissemination of bibliographic publications through the Depository Library Program. There is a phrase at the end of that section that says, "To the extent that such information was being made available for this purpose at the date of enactment of this section * * *," and our concern there is that information technologies are changing so fast that there may be many new forms of dissemination that do not exist at this point, and we would rather include things which may not exist at this point as well as just the existing products of NTIS which have been created at this stage.

As for public and private roles, I think we have a very healthy mix and I'm looking at this from the standpoint of a person who is interested in the communications system of the sciences and technologies. Public programs such as the Depository Library Program, the NTIS program, the ERIC program,[24] and education provide access to a wide range of materials. We have certain forms of dissemination where we have mixed public and private responsibilities, including the availability of government data bases through such data base vendors as the Dialog Information Services Corporation,[25] which is very desirable because it reaches a broad number of users.

In the private sector we have major indexes like *Engineering Index* and *Applied Science and Technology Index,* providing us access to much of the journal literature and also the conference proceedings literature.

I would like to just briefly focus on two factors besides the collection and dissemination which I think are important for the Subcommittee's consideration. One is organization of documents for retrieval, very sound indexing. The Committee's instructions spoke about the collection and dissemination. I would also like to talk about the organization for retrieval of any products of Government research being very, very important if we're going to get maximum access for potential users.

---

[24] Educational Resources Information Center, operated under contract from the National Institute of Education.

[25] Dialog Information Services, Inc., is a subsidiary of the Lockheed Corporation. For further information, contact the marketing department at 3460 Hillview Avenue, Palo Alto, California 94304.

Secondly, I would like to talk about the cost. The cost is also a crucial consideration, especially for those of us in the non-profit sector.

In Appendix E of my written testimony I've provided a comparison of the per-connect-hour costs of government data bases which are provided directly to Dialog by government providers in the first instance, and those provided and enhanced through private providers in the second. The average per-hour cost of these is $93.26 per hour for the ones provided through both private vendors manipulating the information and then providing it to Dialog. It's $45.70 for the government agencies which have provided it directly to Dialog Information Services.

This is a major concern for universities. We have seen Federal grants declining. As I mentioned a few minutes ago, our own university budget has been declining. We're concerned about small business, and we are trying to attract a lot of high-tech industries in my own area, and we cooperate with an initiative called Software Valley and something which extends up into the Chairman's area called the Monongahela River Summit Conference, which is attempting a development of the Monongahela River Basin area in southwestern Pennsylvania and northern West Virginia, and we are concerned about the ability of these organizations to afford expensive products. If they can't afford them, they are not going to get to the ultimate users of the products.

For collection, I see this as primarily a public function. It may not be very cost-effective for a private agency to spend a great deal of time going after low-return types of information. The best thing I can think of in other Department of Commerce programs would be the Census, where Census takers go around to individual households and may have to make repeated calls on them. I don't think this would be very effective for a private sector organization to do, but the type of data you get from that is essential for program planning in some of the social areas.

Mr. WALGREN. I'm going to have to call the time on you, and I apologize for doing that because your comments are very helpful.

Mr. SHILL. Sure. I apologize.

Mr. WALGREN. Maybe we will get a chance to come back and you will see places where thoughts you still have will fit.

[The prepared statement of Dr. Shill follows:]

Statement of

Dr. Harold B. Shill, Chair
Legislation Assembly
American Library Association

before the
Subcommittee on Science, Research, and Technology
of the
House Committee on Science, Space, and Technology

on
Federal Information Resources Policy

July 14, 1987

Mr. Chairman and Subcommittee Members, I am Harold Shill, Head Librarian and Associate Professor at the Evansdale Library, West Virginia University. My library serves programs in engineering, agriculture, forestry, computer science, education and several other disciplines. As the largest branch library at my state's land-grant university, we also have a statewide mission to share technical information in support of economic development and the Agricultural Extension Service.

It is my privilege today to testify on behalf of the American Library Association (ALA), a nonprofit, educational organization of nearly 44,000 librarians, library users and library supporters devoted to the improvement of library and information services for the entire population. Within ALA, I have served as a member of the Legislation Committee of the Association of College and Research Libraries since 1982, and I will be serving as chairman of that committee in 1987-88. In addition, I chair the Association's Legislation Assembly. I also have been Federal Relations Coordinator for the West Virginia Library Association since 1983.

The Association commends the Subcommittee for focusing its attention on the future of the National Technical Information Service (NTIS) and on the broader questions of access to government-produced information in a fast-changing information environment. We are particularly pleased that the House-passed HR 2160, the National Bureau of Standards Authorization for FY 1988, contains the Subcommittee's language prohibiting NTIS from contracting out activities not currently performed by outside contractors. When I testified for ALA on the Japanese Technical Literature Act in March 1986, the legislative focus was upon the importance of technical information as a resource in an increasingly competitive international economic order. At that time, witnesses noted the importance of the Japan Information Center of Science and Technology (JICST) for making Japan an economic power. JICST has assiduously acquired, translated, processed, indexed and distributed technical literature to all sectors of Japanese industry since its inception in 1955. Systematic access to this literature has been a fundamental reason for Japan's rapid advance in both basic and high-tech industries since World War II. Japan recognized early in its industrial development effort that technical information was an indispensable resource for the upward climb, and that country's present economic stature shows graphically the benefits which can accrue from a carefully crafted and progressive national information policy.

Discussions of information policy in the United States have generally focused on constituent parts of a national information policy, such as copyright, cost, privacy, telecommunications, postal subsidies, information reporting requirements, the Freedom of Information Act, and the use of new technologies, rather than broader questions of government role and societal need. More recently, such Administration initiatives as Office of Management and Budget (OMB) Circulars A-76, Performance of Commercial Activities, and A-130, Management of Federal Information Resources, the establishment of a "sensitive but unclassified" information category, the NTIS privatization proposal, cuts in data collection, and Administration challenges to the role of the Joint Committee on Printing (JCP) in agency printing decisions by revising the Federal Acquisition Regulation (see Appendix A) have brought information policy questions into the political spotlight. This Subcommittee's own investigations into science policy, technology policy, and technology transfer programs also have given increased political visibility to information policy questions. When we further consider the profusion of bills relating to information policy now before Congress, the rapid emergence of new information technologies, and the current opportunity to begin the pilot electronic printing projects for the Government Printing Office (GPO) Depository Library Program, it is clear that information policy has emerged in 1986 as a major political issue with far-reaching implications.

The Subcommittee is addressing four broad questions in these hearings: 1) identification of federal agencies now providing scientific and technical information (STI), the nature and extent of interactions among them, and possible improvements in existing systems; 2) identification of steps U. S. agencies are now taking to identify, acquire, organize and distribute STI from other countries; 3) definition of appropriate public and private roles in identifying, collecting, organizing and disseminating government and scientific, technical and statistical information; and 4) the identification of agencies other than the Office of Science and Technology Policy which can contribute to the development of national information policy and successfully coordinate and unify the nation's STI resources to meet existing and potential information needs. The Subcommittee has also expressed a desire to examine the utility of HR 1615 and HR 2159 for improving federal STI coordination.

I would like to address the Subcommittee's concerns by: 1) examining the national and international context of information policy today; 2) reviewing the federal government's current programs for acquiring, processing, organizing, indexing and disseminating both completed research and statistical data; 3) analyzing the question of public/private responsibilities in the context of current national information needs and the option of converting NTIS into a government corporation; and 4) giving some attention to a policy mechanism which might appropriately draft the type of information policy the Subcommittee seeks.

I should state at the outset that I will proceed from two operating assumptions: 1) we do not, at present, have an explicit national information policy (or policies); and 2) it is arbitrary to discuss a particular type of information policy, such as technical information policy, in isolation from the ends it is supposed to serve. Viewed from the standpoint of the second assumption, we cannot talk about national information policy without considering our research and development priorities, technology transfer aims, STI user needs and the larger societal impact of choices made in this area. Decisions made in this area are not minor adjustments affecting a small sector of society but basic choices with potentially vast social consequences.

The Information Policy Context:

The United States has clearly lost the dominant economic position it held at the end of World War II. Many European and Asian countries have either re-built war-shattered economic infrastructures or advanced into the industrial age for the first time. We discovered the extent of our economic interdependence in 1973 and 1974, when OPEC oil embargoes created gas lines in this country for the first time in a non-war situation. We have recognized reluctantly that other countries can build products not only more cheaply but also, in some cases, better, as we see from the profusion of high-quality German, Japanese, French, and Swedish cars on American highways. We have been forced to re-examine previously unchallenged assumptions about the permanence of American standards of living and military superiority. The Subcommittee's hearings are part of that important effort to define our current competitive situation and to chart new directions for a productive and peaceful future.

The Japanese Technical Literature Act of 1986 was an important official recognition that we have a national interest in monitoring technical innovations in other countries, though scientists and industrial researchers have been aware of the importance of Japan's literature for some time. As the Subcommittee will recall, 81 percent of Japan's scientific and technical journals were not covered by Western language indexes in 1981 and 75.5 percent of them were not available at all in Western languages (Gibson and Kunkel, 1981). As the result of JICST's efforts, Japan profitted immensely from Western technological research. While The Netherlands and West Germany early recognized the importance of Japan's literature and made concerted efforts to provide access to it for their researchers, it took a mounting trade deficit to arouse similar interests in this country.

The U. S. Department of Agriculture (USDA) has actively collected, translated and disseminated "technical translations" of significant research from numerous foreign countries. Approximately 25 percent of the reports collected by NTIS today originate in other countries, and these reports include such topics of current research interest as robotics, artificial intelligence, fifth-generation computing, biotechnology, fiber optics, and advanced materials research. Most of these reports are acquired through intergovernmental agreements. The President's April 10, 1987, Executive Order 12591 "Facilitating Access to Science and Technology" is another important step encouraging government initiatives to acquire and disseminate foreign STI. There are smaller programs as well, but coordination among them seems minimal.

America's research infrastructure has grown and evolved greatly since the end of World War II. Prior to that conflict, research was performed primarily in the industrial sector and by university-based investigators. The federal government first assumed a major role in this area during World War II by supporting research with potential military applications. In addition to profoundly changing university-government relationships, the wartime research effort also created a body of technical reports potentially useful for both applied and basic research. That literature was preserved and made available for repeated societal use by the Publications Board and the Office of Technical Services, the organizational ancestors of NTIS.

Research in the private and public sectors has thrived since World War II, and much of that success is attributable to continued federal government support for basic and applied research and the ready availability of documents reporting the results of that research. The National Science Foundation (NSF) has estimated that $118.6 billion was spent on research and development in 1986 (Statistical Abstract of the United States, 1987, p. 564). NSF data shows that 50.1 percent of research and development funding was provided by industry, 46.5 percent by the federal government, 2 percent by universities, and 1.4 percent by other sources. Most research in the industrial sector is proprietary in nature and not available to the general public or to other firms. Non-classified results of research done under government contract, however, are made available for repeated public use by NTIS. However, one potentially controversial provision of E.O. 12591 calls for the development of a uniform federal policy that would allow those with federal grants and contracts to retain the rights to technical data generated by their federally supported work. An article in the May 13, 1987, Chronicle of Higher Education, "U.S. Agencies Told to Disseminate Results of Research," discusses this provision.

Interested investigators and librarians can systematically determine what research has been done through Government Reports Announcements and Index (GRA&I), a superbly indexed reference tool which is made available to depository and other libraries, businesses, and the public.

Despite this impressive record of technical achievement, American dominance in the development of new technologies is clearly a thing of the past. Only 25 to 30 percent of the world's research is now produced within the United States, and that percentage is not likely to rise.

There also have been significant changes in the technical research structure within the United States. Fifty percent of all major innovations in the last 30 years have come from small firms ("High-Tech Services for Small Business," Business America, June 9, 1986, pp. 2-7). Alliances with industry also have become increasingly important as federal research patronage has dwindled in recent years. While some voices in academia object strenuously to the superimposition of the private sector's research agenda, both universities and business have benefited from the sharing of human, laboratory, computer and library resources.

This shift in the structure of technical research, however, has not moved us any closer to the kind of information policies developed by other industrialized countries. The Soviet Union has systematically collected and disseminated STI since the All-Union Institute of Scientific and Technical Information was established in 1952. The French Centre National de la Recherche Scientifique has aggressively collected and made available STI to researchers in France. Canada, Brazil, Sweden, and many other countries have developed information policies reflecting national STI needs (Wrenn, 1987). The contributions of Japan and JICST have already been noted.

STI policy in the United States, however, has been virtually non-existent since the demise of the Committee on Scientific and Technical Information

(COSATI) in 1972. As the Subcommittee noted in its hearing charter, only OMB among federal agencies with information concerns has displayed any coherent approach toward information policy, and that approach has emphasized cost-benefit analysis and reduction of government information activities, "maximum feasible reliance on the private sector" for information dissemination, non-duplication of private sector activities, and cost recovery through user charges. Nowhere in this *de facto* policy is there any systematic effort to ascertain STI user requirements, national information needs, or the effectiveness of American STI programs in comparison with those of other nations. The National Telecommunications and Information Administration and the Federal Communications Commission, on the other hand, have focused on telecommunications and computers rather than the *content* of STI being collected and disseminated. The result has been a policy vacuum.

Two other developments, multinational corporation ownership of American information vendors and the profusion of new information technologies, should also be addressed in order to convey a well-rounded description of the information environment in which policy decisions must be made.

Though it has received relatively little attention from the media, many private firms in the information sector have been acquired by foreign-owned companies or their subsidiaries. Among the three largest private database vendors, only DIALOG Information Services is still wholly American-owned. The other major private sector vendors, Bibliographic Retrieval Services (BRS) and Pergamon/SDC ORBIT, have come under the control of Dutch (1979) and British (1987) firms, respectively. Although such change of ownership is normal in the course of business, actual and potential foreign takeovers of American vendors must be considered when policy decisions regarding public/private control of government-produced information are considered (see Appendix B for ALA resolution).

Far less subtle than the incremental shift to foreign ownership has been the explosion of new information technologies, most of which offer real or potential benefits for government information programs. The two most notable innovations have been the development of online database services and optical laser disk technologies for the storage and retrieval of information.

The first major databases, NASA/RECON and MEDLARS, were the product of joint public/private development in the mid-1960s. The software developed from those early projects enabled the two private vendors, Lockheed Retrieval Systems and Systems Development Corporation, to later mount the DIALOG and SDC ORBIT systems. The National Aeronautics and Space Administration (NASA) and the National Library of Medicine (NLM) continued to offer their own database services with the original software, although NASA and the American Institute of Aeronautics and Astronautics have jointly provided the AEROSPACE DATABASE through DIALOG. There are now approximately 4500 databases available through 550 different searching systems, and 40-50 "gateways" enable searchers to move directly from one system into another. In addition to offering bibliographic databases, the major searching system operators also have loaded a variety of full-text, statistical and factual databases into their mainframe computers.

The other development, optical laser disk, has in the last two years significantly transformed the electronic information environment. Where previously information searchers were able to access only print or online databases, with their trade-offs of time, cost and searching/retrieval capabilities, now users have the prospect of using Boolean searching capabilities, searching multiple years of a database at the same time, and eliminating online database connect and telecommunication charges. Approximately 100 databases are now available in CD-ROM (compact disk, read-only memory) format, and librarians, database producers and vendors have shown great interest in using this new technology by investing in equipment and database subscriptions. Several federal databases, including ERIC, AGRICOLA, MEDLINE and NTIS, are now available on compact disk through private vendors or soon will be.

Federal Government Organization for STI Collection and Dissemination

It was noted earlier that the federal government does not have a conscious information policy, though it has established a series of mini-policies affecting copyright, technology transfer, deposit of government publications, etc. The absence of an overall policy became abundantly clear to me in 1986, when I discovered while preparing to testify on the Japanese Technical Literature Act that technical translations were performed by such diverse agencies as the Department of Agriculture, Foreign Broadcast Information Service, the Office of Naval Research, NTIS, the Army's Foreign Science and Technology Center and several other agencies. These agencies were mostly unaware of what the others were doing or had done, and I recommended at that time that inter-agency efforts at coordination and careful documentation of translation activities be undertaken.

The U. S. government also has a multitude of agencies collecting and processing data, although central agencies (GPO and NTIS) do exist for the printing, indexing and dissemination of documents. In reality, only 50 percent of the documents prepared by federal agencies are actually made available to the public through the Depository Library Program or the GPO Sales Program. Many agencies are not fully aware of the deposit requirements. Most, however, either receive printing services through GPO or receive a JCP waiver to have their printing done elsewhere. When the printing is done on the outside, unfortunately, the likelihood of a document being deposited with the Depository Library Program appears to be significantly reduced.

This dispersion of responsibility notwithstanding, many federal agencies have done an outstanding job of collecting and processing data/information and making it available to the public through appropriate channels. The agencies with the broadest programs of data collection/dissemination are the Department of Commerce, Department of Labor, Department of Health and Human Services, Department of Agriculture, Department of Education, NASA, Environmental Protection Agency, GPO and its Superintendent of Documents. Much of the information collected and disseminated by these agencies fits within the scientific, technical and statistical parameters established by the Subcommittee as areas of interest.

The most prominent data collection/distribution agencies in the Commerce Department are the Census Bureau and NTIS. The Bureau of the Census compiles data in 12 subject areas (population, housing, manufacturers, agriculture, etc.) and makes the data available through such publications as the Statistical Abstract of the United States, County and City Data Book, State and Metropolitan Area Data Book, national and state-by-state summary volumes for each of the 12 censuses. The Bureau also disseminates data from other government agencies and some non-federal research organizations in some of its publications. Census data is available on magnetic tapes for local manipulation. Data collected by the Bureau is widely recognized as indispensable for industrial, business, governmental and educational planning and for research in a wide variety of academic disciplines.

The West Virginia University (WVU) Libraries are a Census Depository. Census depositories and data affiliates collect and provide access to the Bureau's many publications. The WVU libraries also have sponsored a number of workshops on the use of Census data which are taught by Census personnel as part of their outreach program. We have arranged successful programs for small businesses, local government and academic disciplines ranging from sociology to agricultural economics to health services planning. Data tapes are maintained at WVU for researchers' use by our Office of Health Services Research. The Census outreach programs, unfortunately, have suffered from budget cutbacks.

The Subcommittee is already familiar with NTIS programs, so I will try to provide some perspective on their accessibility and use through research libraries in the university, corporate, and governmental research environments. Many university libraries provide permanent access to significant parts of the NTIS document collection. Texas A&M University, for example, has 70 percent of the overall collection in its libraries. At WVU, we have developed a 400,000-document NTIS collection through standing orders in 33 subject categories (see Appendix C) and selective purchases of documents outside our profile. We generally try to borrow documents not exactly fitting our research interests from other academic libraries. This recurrent access to NTIS documents through libraries is an important and lasting "value added" through the current distribution system.

In addition to archiving much of the NTIS collection, university libraries also promote use of NTIS documents in a variety of ways. At my own institution, we include instruction in the use of GRA&I, the primary index for identifying NTIS documents, in all our bibliographic instruction classes for graduate and advanced undergraduate engineering students. It is our expectation that these individuals will use NTIS resources both in their academic work and later in their working careers. We strongly encourage searches of the online NTIS database for all grant-funded and dissertation/thesis research, and the online version is the fourth most heavily used of the 500 plus databases we can access. Use would be even higher if DIALOG, the private vendor through which we use the NTIS database, had not increased its online connect-hour charge from $45 to $69 per hour in the past few years. We also maintain SDI (selective dissemination of information) profiles on robotics and low-volume road maintenance for two engineering faculty members. These researchers receive biweekly printouts of new reports added to the NTIS database recently, and they feel that both they and their students are kept abreast of the state-of-the-art in these areas, since research reports are usually well ahead of the published journal literature in currency.

NTIS products are also a mainstay of corporate and governmental research library services. For example, at the Westinghouse Research and Development Center Library in Monroeville, Pa., $7200 worth of NTIS documents were purchased to support diverse Westinghouse research projects in the first five months of 1987 alone. The privatized Morgantown Energy Technology Center Library has bought $5000-$6000 worth of NTIS documents annually since 1980. The Appalachian Laboratory for Occupational Safety and Health Library, also privatized, has purchased an average of 360 NTIS documents annually for the past five years. Librarians in all three of these facilities are extremely pleased with current NTIS services and concerned about possible cost increases, permanent availability of documents, and loss of the "one-stop source" feature should NTIS be privatized or otherwise dispersed among several organizations.

Data collected by the USDA is also in very heavy demand in the Evansdale Library. Agricultural Statistics, an annual compilation of production and market data, is in particularly heavy demand with faculty and graduate students in Agricultural Economics and with Agricultural Extension Specialists. Many publications of the USDA's Agricultural Research Service and Economic

Research Service are utilized regularly by researchers, extension personnel, Soil and Conservation staff, and local U. S. Forest Service personnel, thereby both promoting new discoveries beneficial to the agricultural sector and transferring existing knowledge to agricultural producers in fulfillment of the University's land-grant mission. Systematic access to this literature and to the publications of state university extension stations is provided by the Bibliography of Agriculture and its online equivalent, AGRICOLA. Current research can be monitored through the USDA/CRIS (Current Research Information Service) database. Both AGRICOLA and CRIS are available through DIALOG and BRS, and AGRICOLA is now available in CD-ROM format through SilverPlatter, Inc. The National Agricultural Library is also using optical character recognition and laser disk technologies to increase access to state experiment station publications.

Access to a wide range of educational and education-related publications and unpublished documents is available through the printed Current Index to Journals in Education and Resources in Education and the online ERIC file. Both the printed and online ERIC files are the most heavily used resources in their formats in the Evansdale Library. The Department of Education has recently conducted a review of the ERIC system's effectiveness. As the result of favorable input from librarians, educators and other users, relatively few changes will be made. The ERIC system is the primary mechanism for the dissemination of educational knowledge, particularly that collected by 16 ERIC clearinghouses and not otherwise indexed or published. Given the current attention to educational reform as a national priority, it is extraordinarily useful for identifying "what works" and reducing duplication in program development and educational research.

The National Library of Medicine makes available research results, clinical program reviews, information on toxins and a great variety of other information relevant to biomedical researchers and practitioners through its printed Index Medicus and such online files as Medline, Cancerlit, Health Planning and Administration and Toxline. University medical libraries serve as the central nodes of regional medical library networks, all coordinated from NLM and providing immediate patient care information to hospitals, clinics and private practitioners throughout the country. The sharing of information through NLM's bibliographic products and the regional networks has clearly benefited both health care and biomedical research in the United States, as is shown by the strong support in both the Executive Branch and Congress for the Medical Library Assistance Act.

NASA has used both public and private agencies through its Technology Utilization Program to disseminate "spin-off" knowledge from the space program for commercial and industrial use. NASA also produced an index to its own technical reports, Scientific and Technical Aerospace Reports (STAR), and collaborates with the American Institute of Aeronautics and Astronautics to produce the printed International Aerospace Abstracts and the online AEROSPACE database. In addition, many NASA technical reports and technical publications are distributed to depository libraries through the Depository Library Program. Though NASA is clearly making a conscientious dissemination effort, we have found it confusing on occasion to deal separately with NASA officials for database accounts for NASA/RECON searching, with a private vendor for training, and with another private vendor for technical support.

Environmental Protection Agency (EPA) publications are available in report series which can be identified through either printed indexes (Monthly Catalog of U. S. Government Publications, Selected Water Resources Abstracts, etc.) or online databases, such as WATER RESOURCES ABSTRACTS. The EPA report series are also fully cataloged in the Evansdale Library, enabling librarians and users to access them directly by title or series name.

The Library Program Service at GPO in conjunction with the library community has established criteria for selecting publications to go to depository libraries from the material printed at GPO and elsewhere. There is at least one full depository library in every state, and more than 1400 libraries are at least partial depositories. Depository libraries maintain these collections over time for free public access, and the Depository Library System is an extremely effective mechanism for placing government documents close to the public and removing economic barriers to their use. However, as a result of budget cutbacks and the implementation of Administration policy, 25 percent of government publications have been curtailed or eliminated. The Depository Library System's usefulness as a means of free, equal access has been eroded by these measures.

Representative Brown is to be commended for offering HR 1615 for consideration by Congress. The "one-stop" source feature of an information superagency is certainly attractive to many librarians and other government users. Though there is clearly considerable merit to his approach, there are also some pitfalls in this bill which should be brought to the Subcommittee's attention.

First, HR 1615 contains no library or archiving provisions. Will documents collected by a Government Information Agency be maintained permanently for public access in a central location? Will a back file or master copy be maintained to permit later distribution to requesters outside the Washington, D. C., area? If we assume that documents in present information systems such as NTIS and ERIC have long-term value, which they clearly do, provision must be made for the maintenance of that archiving function in a Government Information Agency.

Second, the contracting provisions in Section 114 are so broad as to permit virtually any type of "contracting out" for the performance of any part of the agency's responsibilities. The only limitation on the Administrator's discretionary ability in this area appears to be financial. Where does this leave the GPO and its Superintendent of Documents? Considerable concern has been raised with the Subcommittee and elsewhere about the contracting out of a resource so precious as government information, so it would appear that a clearer statement of government responsibilities and their limitations is needed here.

Third, there are no depository provisions in the bill as currently written. If the value of the Depository Library Program is to be preserved, clearly, provision must be made for the distribution of at least the set of documents currently sent to depository libraries and hopefully more. This is a serious matter of both citizen access and program effectiveness, so the present form and level of distribution at least should be maintained, if not strengthened.

Fourth, there is no mention of indexing in the bill. The mechanism providing systematic access to any body of literature is an index. The Monthly Catalog of U. S. Government Publications provides precisely that type of access to all depository publications and some non-depository documents. Government Reports Announcements and Index provides subject, author, title, corporate source, report number and series indexing for NTIS documents, and this is one feature of that service which makes it so usable. Any new agency, such as the proposed Government Information Agency, must have a comparable tool providing bibliographic access to the documents it has collected, or retain existing indexes, if that collection is to be truly accessible.

Finally, though mention is made of print, microfiche, and electronic formats, there is no mention of the current system of dual distribution (paper and microfiche) of many depository items. Such dual distribution is essential if libraries are to provide government information in the most appropriate format for that library's users.

In addition, F. Wilfrid Lancaster of the University of Illinois has predicted that 50 percent of all technical reports will be disseminated in machine-readable form only by the year 2000. Thus, as more and more government information becomes available only electronically, it is essential for an informed public that they have access to information in this new format through depository libraries.

In response to this need, JCP passed a resolution on April 9, 1987, urging GPO to take the appropriate steps to initiate tests of the dissemination of federal information in electronic form to the depositories. The JCP letter to the Public Printer cited the Committee's "belief that new and emerging technologies could make it possible to distribute government information to depository libraries at substantial cost savings to the program." JCP also conveyed its support for funding of the pilots to the Appropriations Committees.

The Public Printer responded to JCP's desire to test the feasibility of dissemination of electronic information to depositories by asking the Appropriations Committees for $800,000, by transfer from the GPO revolving fund, to establish a pilot project office and begin the work on tests. The Public Printer also established an information technology program within the Library Program Service at GPO to begin work on planning for pilots (see Appendix D for ALA resolution).

It is important that the pilots be funded for FY '88 because at least 16 agencies have volunteered to participate in the program and they see the Depository Library Program as a vehicle for fulfilling their legal mandates to disseminate information to the public. For example, the Census Bureau plans on publishing most of the 1990 Census electronically and are now experimenting with CD-ROMs. EPA is mandated by law to make the Toxic Release Inventory Data available to the public through computer telecommunications and other means and they see the depository program as a way of doing this. The longer the delay, the less likely it is that the public will get free access to this data, since a coordinated program will not exist and agencies left to their own may or may not provide free access and if they follow OMB's direction they will charge as much as they can for the data.

The Advisory Committee established by JCP issued reports in 1984 and 1987 supporting the pilot projects. That committee is composed of representatives from the Information Industry Association, the Computers and Business Equipment Manufacturers Association, as well as library associations, executive branch agencies and legislative committees. A number of private-sector companies offering to participate in pilots have met with GPO and JCP.

Public and Private Responsibilities

A healthy mix of public and private sector programs for the distribution of government information existed long before OMB issued Circulars A-76 and A-130. This mix is most clearly demonstrated in the government's use of private information vendors with a broad user base, such as DIALOG, BRS and Pergamon/SDC ORBIT, to provide access to government databases in academia, public and corporate libraries, and state and local governments. It should be noted, however, that user costs in accessing government databases through private information vendors are often substantially higher than those incurred in using databases stored in government computers. Government information re-packaged by the private sector is also usually expensive for end users. Appendix E shows that the average cost of government information databases provided through DIALOG by the private sector is $93.26, while databases provided directly to DIALOG by the collecting agencies costs $45.70 per connect hour. Privatization more than doubles the cost to end users.

There is very strong user and librarian sentiment that the present NTIS system, for example, works extremely effectively. Much of the corporate and governmental agency use cited in NTIS statistics really reflects the work of corporate and medical librarians, who have systematically identified and procured requested documents for researchers and administrators through this "one-stop source." One librarian at a privatized federal library has emphasized the importance of the "one-stop" feature, noting that one has to call or write many different agencies or organizations if responsibility for various stages of the collection/processing/distribution process is dispersed to several different public/private organizations. The inclusion of documents procured through bilateral agreements with foreign governments is also a feature which is essential if the United States is to remain competitive.

In addition, the archiving, rapid delivery, excellent indexing, and relatively low cost of NTIS documents are necessary features of a system which meets user research needs and enhances American economic competitiveness. It is very doubtful that a private firm, operating under market incentives, would be able to deliver the entire array of services presently provided by NTIS at a competitive price. The Landsat privatization experience is an excellent example of the risks inherent in the uncritical delegation of public responsibilities to the private sector.

The private sector has contributed very significantly to the current structure of STI dissemination. For example, Engineering Index, compiled by the Engineering Societies Library of New York, provides the most comprehensive coverage available for engineering journals and conference proceedings, including many foreign contributions to the literature. The Evansdale Library's printed version of Engineering Index is among the most heavily used of our abstracting and indexing services. It is a "must" tool for graduate students doing thesis/dissertation research, and we emphasize it along with GRA&I in our bibliographic instruction program. Unfortunately, access to this fine service's online counterpart, the COMPENDEX database, has been inhibited by its $108 per connect-hour cost on DIALOG. In addition, the conference proceedings portion of the database has been broken off into a separate file, called Ei ENGINEERING MEETINGS, and it is necessary to search both files at a cost of nearly $2 per minute to secure complete coverage of the online equivalents of Engineering Index. As a result of their high cost and the inability of many students and faculty members without large grants to pay, COMPENDEX and Ei ENGINEERING MEETINGS both receive far less use at West Virginia University than their importance would indicate. The technical communication system clearly suffers, in this instance, from the injection of market considerations.

Historically, Americans have arrived at pragmatic solutions to practical problems rather than being bound by ideology. This approach is still valid in the information policy area today. The Chairman and the Subcommittee deserve the sincere appreciation of the user and library communities for not standing by and allowing the dismemberment of a technical information system which has served its purpose well, provided accountability to the American taxpayer, and preserved our options for future information requirements.

Although ALA has not taken a position on HR 2159, we are convinced that NTIS functions should be performed by a government agency. We believe that the government corporation option is definitely worth further examination if it would preserve the strengths of the existing technical communication system and its report literature hub, the NTIS. HR 2159 appears to include the functions which ALA considers essential to NTIS. In January 1987, ALA's Council adopted a resolution (Appendix F) which spelled out the vital functions currently performed by NTIS which should be continued whatever changes are made to the structure of NTIS:

> a) provision of a centralized source and permanent repository for a broad range of federal, international, state, local, and other unclassified scientific and technical reports;
>
> b) provision of bibliographic access to the material through tools such as NTIS' *Government Reports Announcements and Index*;
>
> c) dissemination of bibliographic information products of such a repository, i.e., catalogs, indexes, abstracts, and newsletters, through the Government Printing Office's Depository Library Program;
>
> d) operation of a timely, "on demand" sales program for this scientific and technical information at prices affordable for not-for-profit libraries, educational institutions, students, small business entrepreneurs, and other similar groups.

We particularly appreciate the inclusion of the requirement to make bibliographic information products available to depository libraries in section 17(k)(4). However, we are concerned that the phrase at the end of that section, "to the extent that such information was being made available for this purpose on the date of enactment of the section," will not restrict the bibliographic information products provided to depositories in the future.

We recognize that OMB prefers to move in the direction of privatization, rational arguments notwithstanding. The folly in that approach was stated very clearly in the April 10, 1987, issue of *Science*:

> While upholding Commerce's position on privatization, agency (NTIS) officials say there is no clear economic rationale to support it. In fact, OMB has yet to respond to an NTIS staff request for a justification that can be used in the testimony before Congress. OMB also was unable to provide *Science* with an economic case to back

> claims that a privately run NTIS would be more efficient. Agency officials simply say that moving NTIS is consistent with the Administration's policy of having the private sector take over federal activities wherever possible. (Crawford, p. 140)

Similar concerns have been expressed in Technology Review. ("Privatizing Tech-Info," Technology Review, February/March 1987, pp. 8, 10). We applaud the Chairman and the Subcommittee for taking so seriously the need for a sound technical information policy, particularly in the present competitive climate. The ultimate measure of an information policy's success is its impact on end user productivity, not disseminator profit margins, and we are grateful that the Subcommittee had maintained this focus through its investigations in this policy area. We are hopeful that a coherent STI policy based on user requirements and national needs will emerge from the Subcommittee's deliberations. Both public and private sectors have important contributions to offer to an STI communications system meeting those needs and requirements.

Policy Mechanism:

The Subcommittee's hearing charter requested input from affected parties on the identification of federal agencies which could contribute to the development of an information policy meeting user needs and preserving the government interest. The Subcommittee clearly expressed its dissatisfaction with the lack of response by the Office of Science and Technology Policy in that charter.

While not claiming expertise in the development of policy mechanisms, the American Library Association would like to suggest that consideration be given to assigning this task to the National Commission on Libraries and Information Science (NCLIS). Public Law 91-345 charges the Commission with responsibility for advising the President and Congress on the nation's library and information needs, and developing and implementing policies and plans in this area. That charge covers the kind of overall policy impact concern which the Subcommittee is seeking, and the Commission has in practice been very careful to solicit input from all viewpoints and to develop thoughtful recommendations for action. As a national commission, NCLIS is also somewhat insulated from the type of partisan political pressures which might lead another body to consider short-term expediency rather than long-range benefit in making its recommendations. It is conceivable that a better agency for this task might be identified or created, but we would urge the Subcommittee to look seriously at NCLIS as the potential holder of this responsibility.

It has been a pleasure to have the opportunity again to share insights and knowledge with the Science, Research and Technology Subcommittee. I will be glad to answer any questions you may have. Thank you.

APPENDIX A

Resolution Relating to the Federal Acquisition Regulation

WHEREAS, An amendment to the Federal Acquisition Regulation (FAR) was published in the March 20, 1987, Federal Register (52 Fed. Reg. 9036); and

WHEREAS, Part 8 of the FAR was revised to allow executive agencies to bypass the printing procedures required by 44 U.S.C. 501(2); and

WHEREAS, This amendment was based upon an executive agency opinion of the unconstitutionality of 44 U.S.C. 501(2) without any judicial review; and

WHEREAS, The effect of this regulation is to eliminate the authority of the Joint Committee on Printing over executive agency printing and Congressional control over printing appropriations; and

WHEREAS, The reduction of JCP authority over government printing will diminish the amount of information available to the public through the Government Printing Office's Depository Library and sales programs; and

WHEREAS, This regulation will result in reduced access and higher fees for government information vital to the economic and social well being of the nation; and

WHEREAS, This revision was implemented without any provision for public comment; therefore, be it

RESOLVED, That the Department of Defense, the General Services Administration, and the National Aeronautics and Space Administration be urged to rescind the revision of FAR Subpart 8.8; and, be it further

RESOLVED, That a copy of this Resolution be forwarded to the heads of each of the three agencies, the Director of the Office of Management and Budget, and appropriate members of Congress.

Adopted by the Council of the
American Library Association
San Francisco, California
July 1, 1987
(Council Document #63)

APPENDIX B

Resolution on Foreign Control of Federal Libraries and Document Depositories

WHEREAS, The information resources of the federal government are vital to the security and economic well being of the United States; and

WHEREAS, Federal libraries and document depositories provide crucial support and unique resources for the development of policies, implementation of programs and ongoing operations of government agencies; and

WHEREAS, Federal libraries and librarians are key to effective utilization of these information resources, performing an inherently governmental function; and

WHEREAS, Federal libraries provide the longitudinal corporate memory of their agencies and their staffs, perform agency evaluations and actions under the Freedom of Information and Privacy Acts; and

WHEREAS, The American Library Association has opposed contracting out of federal libraries; and

WHEREAS, The Administration has expressed its concern regarding the sensitivity of certain types of federal information; and

WHEREAS, This Administration is using Office of Management and Budget Circular A-76 to force the contacting out to organizations outside the federal government of the information services provided by federal libraries and document depositories; and

WHEREAS, Circular A-76 does not restrict contracting for federal library and depository services only to United States firms and organizations; and

WHEREAS, At least one major departmental library and key functions in other federal libraries are already contracted out to U. S. subsidiaries of foreign firms; and

WHEREAS, It has been announced that a foreign owned firm is to be the successful bidder on another A-76 action which would allow this firm to take over the operation of a major scientific library in the federal government; now, therefore, be it

RESOLVED, That the American Library Association believes it is not in the best interest of the American people to contract out federal information programs and organizations to foreign owned or controlled firms; and, be it further

RESOLVED, That the American Library Association urge the Congress of the United States to declare a moratorium on all contracting out of federal libraries and document depositories and to hold further hearings on this matter; and, be it further

RESOLVED, That copies of this Resolution be transmitted to the President of the United States and his National Security Adviser, the President of the Senate, the Speaker of the House of Representatives, appropriate committees of the Congress, and the Director of the Office of Management and Budget.

Adopted by the Council of the
American Library Association
Chicago, Illinois
January 21, 1987
(Council Document #26.7)

APPENDIX C

AREAS IN WHICH EVANSDALE COLLECTS NTIS MATERIALS

ENVIRONMENTAL CONTROL TECHNOLOGY AND EARTH SCIENCES

HEAT REJECTION AND UTILIZATION

GENERAL, MISCELLANEOUS, AND PROGRESS REPORTS (NONNUCLEAR)

MATERIALS

MATHEMATICS AND COMPUTERS

APPLICATIONS OF EXPLOSIONS

INSTRUMENTS

ENGINEERING AND EQUIPMENT

HEALTH AND SAFETY

CRITICALITY STUDIES

BIOLOGY AND MEDICINE

HEATING AND COOLING - RESIDENTIAL AND COMMERCIAL APPLICATIONS

WIND ENERGY CONVERSION

BIOLOGICAL AND CHEMICAL CONVERSION OF SOLAR ENERGY

WASTE PRODUCT CONTROL

COAL MINING

COAL CONVERSION AND UTILIZATION

COAL CONVERSION DEMONSTRATION PLANTS

OIL SHALES AND TAR SANDS

PETROLEUM AND NATURAL GAS

ENERGY CONVERSION

ENERGY STORAGE

ENERGY CONSERVATION

ENERGY CONSERVATION - TRANSPORTATION

ELECTRIC ENERGY SYSTEMS

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - GENERAL

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - COAL AND COAL PRODUCTS DATA

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - PETROLEUM AND PETROLEUM PRODUCTS

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - NATURAL GAS DATA

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - RENEWABLE ENERGY RESOURCES DATA

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - ELECTRIC POWER DATA

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - ENERGY ANALYSIS, PROJECTIONS AND MODELING

ENERGY PROJECTIONS AND STATISTICAL INFORMATION - ENERGY CONSERVATION, CONSUMPTION, AND UTILIZATION

* * *

APPENDIX D

Resolution on Electronic Pilot Projects for Depository Libraries

WHEREAS, The federal Depository Library Program was established by Congress to provide federal government information, at no cost to the public, through depository libraries; and

WHEREAS, Federal government information is increasingly being disseminated through electronic means; and

WHEREAS, Access to government information in electronic format is essential for an informed public; and

WHEREAS, The Joint Committee on Printing resolved on 9 April 1987, to urge the Government Printing Office to initiate pilot projects testing the dissemination of federal information in electronic format to depository libraries; and

WHEREAS, The JCP had full knowledge of the pending Office of Technology Assessment study on federal information distribution at the time the resolution was passed; and

WHEREAS, The information industry was well represented on the JCP's ad hoc Committee on Depository Library access to Federal automated data bases and participated fully in the work of the committee; and

WHEREAS, At least sixteen agencies have volunteered to participate in the projects, recognizing the Depository Library Program as a vehicle for fulfilling the legal mandate to disseminate information to the public; and

WHEREAS, Electronic distribution of government information to depository libraries may result in substantial long-range cost savings to the Government Printing Office; and

WHEREAS, The House Appropriations Committee denied the transfer of monies from GPO's revolving fund to support the pilot projects in FY '88, pending results of an Office of Technology Assessment study of federal information dissemination; and

WHEREAS, Continued delays in the implementation of the pilot projects seriously compromise public access to government information; now, therefore be it resolved

RESOLVED, That the American Library Association urge Congress to authorize adequate funds for FY 1988 to implement pilot projects for dissemination of government information in electronic format through the Depository Library System.

Adopted by the Council of the
American Library Association
San Francisco, California
July 1, 1987
(Council Document #62)

APPENDIX E

Per-Hour Connect Cost of Access to Government Information Through DIALOG Information Services Databases Provided by Public and Private Organizations

Database (Government Provider)	
Agricola (NAL)	$39
Agris (NAL)	50
APTIC (EPA)	54
Aquaculture (NOAA)	35
BLS Consumer Price Index (Bur. of Labor Stat.)	45
BLS Employment/Hrs/Earnings (BLS)	45
BLS Producer P.I. (BLS)	45
Cancerlit (NLM)	36
Cendata (Bur. of Census)	36
Child Abuse & Neglect (HHS)	35
Commerce Business Daily (U.S. Dept. of Commerce)	54
CRIS/USDA (USDA)	40
DOE Energy (Energy Dept.)	84
ERIC (Nat. Inst. of Educ.)	30
FEDRIP (NTIS)	48
Foreign Traders Index (Dept. of Commerce)	54
GPO Monthly Catalog (GPO)	35
GPO Publications Reference (GPO)	35
Health Planning & Administration (NLM)	36
IRS Taxinfo (IRS)	18
LC MARC (Library of Congress)	45
Medline (NLM)	36
NCJRS (National Institute of Justice)	35
NTIS (NTIS)	69
Occupational Safety & Health (NIOSH)	66
TRIS (Dept. of Transportation)	45
Water Resources Abstracts (Dept. of Interior)	84

Avg. Cost = $45.70
n = 33

Database (Private Provider)	
Aerospace (AIAA & NASA)	$78
Aquatic Science & Fisheries (NOAA & Cambridge Sci. Abs.)	87
American Stat. Index (CIS)	90
Chemical Regulations/Guidelines (USIRLG & CRC, Inc.)	70
CIS (Congressional Info. Serv.)	90
Claims/Citation (IFI/Plenum)	95
Claims/Compound (IFI/Plenum)	95
Claims/Reassign. & Reexamination (IFI/Plenum)	55
Claims/Reference (IFI/Plenum)	95
Claims/U.S. Patent Abstracts (IFI/Plenum)	105
Claims/U.S. Patent Abstracts Weekly (IFI/Plenum)	105
Claims/Uniterm (IFI/Plenum)	300
Congressional Record Abstracts	96
Disclosure Financials (Disclosure, Inc.)	45
Disclosure Management (Disclosure, Inc.)	45
Disclosure/Spectrum Ownership (Disclosure, Inc.)	60
Federal Register Abstracts (Capitol Services)	75
Laborlaw (BNA, Inc.)	120
Mental Health Abstracts (IFI/Plenum)	66

Avg. Cost = $93.26

(w/o Claims/Uniterm = $81.78)

n = 19

APPENDIX F

Resolution Concerning OMB's Proposed Privatization of NTIS

WHEREAS, The Office of Management and Budget (OMB) proposes to contract out or privatize the National Technical Information Service (NTIS); and

WHEREAS, Strong objections have been submitted to NTIS and OMB by the American Library Association, other professional library and information science associations, the academic and research community, individuals, and private sector organizations requiring rapid, economical access to scientific and technical information collected or generated with U. S. tax dollars; and

WHEREAS, ALA has expressed its concerns regarding the maintenance of the vital functions currently performed by NTIS, namely:

a) provision of a centralized source and permanent repository for a broad range of federal, international, state, local, and other unclassified scientific and technical reports;

b) provision of bibliographic access to the material through tools such as NTIS' Government Reports Announcements and Index;

c) dissemination of bibliographic information products of such a repository, i.e., catalogs, indexes, abstracts, and newsletters, through the Government Printing Office's Depository Library Program;

d) operation of a timely, "on demand" sales program for this scientific and technical information at prices affordable for not-for-profit libraries, educational institutions, students, small business entrepreneurs, and other similar groups; and

WHEREAS, Such contracting out or privatization of NTIS would adversely affect equal and ready access to scientific and technical information crucial to the competitive position of the U. S. in the world economy, and to the security of the nation; and

WHEREAS, The Office of Management and Budget has not responded publicly to these concerns; now, therefore, be it

RESOLVED, That the American Library Association calls upon the Congress of the United States to hold hearings on OMB's proposal and, if necessary, draft and pass legislation designed to assure that the interests of the American public and the functions identified above will not be vitiated should OMB proceed with its plan to contract out or privatize NTIS; and, be it further

RESOLVED, That copies of the Resolution be transmitted to the President of the Senate, the Speaker of the House of Representatives, appropriate committees of Congress, the Secretary of Commerce, the Director of the National Technical Information Service, and the Director of the Office of Management and Budget.

Adopted by the Council of the
American Library Association
Chicago, Illinois
January 21, 1987
(Council Document #26.6)

Bibliography

Robert W. Gibson, Jr., and Barbara K. Kunkel, Japanese Science and Technology Literature: A Subject Guide. (Westport, Conn.: Greenwood, 1981), pp. 34, 37.

Statistical Abstract of the United States, 1987, (Washington, D. C.: Government Printing Office, 1987), p. 564.

"High-Tech Services for Small Businesses," Business America, vol. 9, no. 12 (June 9, 1986), pp. 2-7.

Thomas Wrenn, "World-wide Trends in Communication and Information Systems," (Unpublished Manuscript, 1987).

Mark Crawford, "Will NTIS Go Private?" Science, vol. 236 (April 10, 1987), p. 236.

"Privatizing Tech Info," Technology Review (February/March 1987), pp. 8, 10.

F. Wilfrid Lancaster, Libraries and Librarians in an Age of Electronics (Arlington, Va.: Information Resources Press, 1982), p. 61.

Elinor Hashim, "National Commission on Libraries and Information Science: A Brief Overview," Journal of the American Society for Information Science, vol. 36, no. 6 (1985), pp. 360-363.

Let's turn to Dr. Trivelpiece.

Dr. **Trivelpiece.** Thank you, Mr. Chairman, for the invitation to appear before you today as you consider important national policy on Federal scientific and technical information in the context of governmental and private sector roles. World War II sort of forever changed the way certain things are done, and a lot of information came out of World War II, and before that there was sort of the individual scientist publishing in science journals, and afterwards, a tremendous amount of technical information. Some of that came out in the form of papers, some of it came out in the form of data tables, and there was kind of an *ad hoc* approach to it. But eventually, technical reports became a large element of it, and this grew, and there literally was an explosion of knowledge. And eventually it became recognized the role that this played in the U.S. enterprise.

The trouble is there was some dismay at the inefficiency that began to mount as this kind of an *ad hoc* pluralistic approach began to be recognized for the rather large size event that it was. And I'd like to go back and point at something out of my own experience as a research scientist, and that is that there are a lot of things around laboratories called machine shops, and machine shops sometimes are of a satellite nature. And occasionally, an administrator at a university will see a satellite machine shop and a machinist reading a comic book and he will get very distressed at that, so they will have a central machine, or try to have a central machine shop—I always fought against them. And when you get the central machine shop you find then all the machinists are busy and the scientists are reading comic books.

So you have to make some distinction between what you mean by efficiency and what you mean by effectiveness, and the object is to optimize the highest-priced element of the system, the talent in the system. And to that extent, recommendations that I can make in this regard are very short.

With respect to NTIS, I don't think that it is broke, so don't fix it. Although clearly, some improvements are called for. Perhaps the bills go a little bit beyond what is needed in order to effect the kinds of improvements that are needed, but one of the things is, if you want to improve the efficiency of the system, look into what has been discussed here previously in the hearing and that is to examine here the internal mechanical aspects of the kinds of technology necessary to make NTIS the slickest information dissemination system that the world has ever seen. Not to worry then about trying to gather into one large bureaucratic organization all the activities that are done by the various agencies, but rather first try to get NTIS the best it possibly can be.

So in that regard then, try to do something about this revolving fund issue so that the kinds of capital assets that are needed in order to accomplish that can be obtained and the activity can be modernized in a fairly effective way.

I know that your staff is familiar with it but I want to call your attention to it because in preparing for this hearing I read it. There is a document from the National Academy of Public Administration called "An Assessment of Alternative Organizational Structures for the NTIS". If you are not familiar with it, I commend it to you. I don't endorse all of its recommendations but it is a very thoughtful study.

And with that, Mr. Chairman, I am prepared to answer questions.

[The prepared statement of Dr. Trivelpiece follows:]

Statement

by

Dr. Alvin W. Trivelpiece

Executive Officer

American Association for the Advancement of Science

on

Scientific and Technical Information

Submitted to

Subcommittee on Science, Research and Technology

Committee on Science, Space and Techology

U.S. House of Representatives

July 14, 1987

American
Association
for the Advancement of
Science

1333 H STREET, NW, WASHINGTON, DC 20005 (202)326-6400
CABLE ADDRESS ADVANCESCI

BIOGRAPHY

ALVIN W. TRIVELPIECE

Alvin W. Trivelpiece became executive officer of the American Association for the Advancement of Science (AAAS) in April 1987. As executive officer of the country's leading general science organization, he oversees all of the Association's activities and programs and serves as publisher of Science, the Association's weekly journal.

Trivelpiece came to the AAAS from the U.S. Department of Energy, where he held an advice-and-consent Presidential appointment as assistant secretary for energy research. As director of the Office of Energy Research, he served as science adviser to the Secretary on the Department's energy research and development programs. He managed the Department's programs for basic energy sciences, high energy and nuclear physics, health and environmental research, and magnetic fusion energy. He also was responsible for the Department's non-weapons multipurpose laboratories and energy education and training activities.

Before going to the Department of Energy, from 1978 to 1981, Trivelpiece was corporate vice president of Science Applications, Inc., in La Jolla, California. From 1976 to 1978 he was vice president for engineering and research at Maxwell Laboratories in San Diego, California.

Trivelpiece was professor of physics at the University of Maryland from 1966 to 1976 and was a professor at the University of California, Berkeley, in the Department of Electrical Engineering from 1959 to 1966. While on leave from the University of Maryland, from 1973 to 1975, he served with the U.S. Atomic Energy Commission as assistant director for research in the Division of Controlled Thermonuclear Research.

A native Californian, he received his B.S. degree from California Polytechnic State University in 1953, and his M.S. (in 1955) and Ph.D. degree (in 1958) from the California Institute of Technology.

Trivelpiece was a Fulbright scholar from 1958 to 1959 (at Delft Technological University) and a recipient of a Guggenheim fellowship in 1967. He was named Distinguished Alumnus of California Polytechnic State University in 1978 and of the California Institute of Technology in 1987.

A physicist, Trivelpiece's research has focused on plasma physics, controlled thermonuclear research, and particle accelerators. He holds several patents on accelerators and microwave devices and is the author or co-author of over 100 technical papers, reports, and books. He has served as a consultant to industry and government agencies.

He is a fellow of the AAAS, the American Physical Society, and the Institute of Electrical and Electronics Engineers, and a member of the American Nuclear Society and Sigma Xi.

5/87

Introduction

Thank you for the invitation to appear before you today as you consider important national policy on Federal scientific and technical information in the context of governmental and private sector roles. This is my first Congressional appearance since leaving the Department of Energy to become Executive Officer of the American Association for the Advancement of Science. As a brief reminder, the AAAS is an organization of some 130,000 scientists and engineers which publishes the journal *Science.*

Background

Since your subcommittee has been wrestling with the general topic of scientific and technical information (STI) for many years, I will not devote time to reviewing all the reasons why we are here today. However, there are several important features of past debates, reports, and policy documents (including legislation) which may bear noting briefly.

- *First*, as you are well aware from your recent Science Policy Task Force Study, articulating appropriate national policy on scientific and technical information collection and dissemination has been the focus of much debate during the past forty years. Beginning with Vanevar Bush's *Science: The Endless Frontier* and the debate over establishment of the National Science Foundation, a strong Federal information role has been seen as being integral with the development of a healthy scientific and scientific enterprise in the United States.

o ***Second***, in this context, Federal responsibility for scientific and technical information has evolved gradually over the years throughout the Federal Government, often in association with legislation which had neither information nor science and technology as a principal focus. (The richness of this history has been documented in a number of studies by the Congressional Research Service.)

o ***Third***, over the years a growing number of Federal agencies increasingly produced scientific and technical information both as part of their research and development efforts and their operations. Examples include the Department of Agriculture, the Department of Defense, the Department of Energy, the Environmental Protection Agency, the National Institutes of Health, and NASA. Further, these agencies have traditionally developed their own methods and policies for managing distribution and access to their information under a rather decentralized framework.

o ***Fourth***, partly in response to this rather decentralized information framework within the Federal Government, the concept of introducing greater policy uniformity and facilitating easier access by prospective users arose during the 1960s. The evolution of the National Technical Information Service (NTIS) over the past twenty five years is a manifestation of this concept. Certainly the predecessor organizations to NTIS -- the Commerce Office of Technical Services, then the Clearinghouse for Scientific and Technical Information -- were major milestones in the development of a more centralized approach in Federal scientific and technical information activities.

o *Fifth*, while much legislation has dealt with information policy, it is important to note that the National Science and Technology Policy Act of 1976 (P.L. 94-282) -- under which the Office of Science and Technology Policy was established -- includes provisions aimed at firmly establishing the basis of Federal scientific and technical information activities as a central part of R&D policy. The Act specifically states that:

> ... it is recognized as a responsibility of the Federal Government not only to coordinate and unify its own science and technology information systems, but to facilitate the close coupling of institutional scientific research with commercial application of the useful findings of science. (90 Stat. 461)

o *Sixth*, in recent years another dimension -- virtually absent in earlier times -- has been added to the policy debate: privatization of governmental functions where possible. For example, in March 1979 OMB Circular A-76 was revised to emphasise that "the government's business is not to be in business." More specifically, the Circular stresses reliance on the private sector for the provisions of goods and services. During the past few years, the OMB has sought to extend this principle to the realm of scientific and technical information and specifically to the NTIS.

o *Seventh*, another facet of information policy has risen to prominence in recent years -- particularly during the past three or four years as part of the overall national concern and debate over what has come to be called "the competitiveness problem." This is not to say that the international dimension of information has been unimportant in the past; however, it is fair and accurate to suggest that it is relatively more important today than it was a decade ago.

Privatization of Governmental Activities

Complicating our analysis of scientific and technical information issues (STI) is the fact that on the one hand we have the large issue of privatization of governmental activities in general with all of the attendant arguments for and against. On the other hand, we have the much more narrow -- but not fully separate -- issues of STI and the NTIS. The central focus of my testimony is on the latter issue. However, it would be ignoring reality not to acknowledge that the debate over the future of NTIS is affected by basic philosophical differences concerning the proper role of the Federal Government in providing information services, products and resources.

Those who favor restricting the role of government and relying more on market forces place a high value on the American tradition of competitive private enterprise, and believe that the private sector can distribute information more economically and more widely than government. They believe that the presence of government inhibits private sector investment and can reduce the efficiency of the marketplace in allocating resources.

Those who would prefer not to privatize various information capabilities of government emphasize a different set of values related to the public interest. For example, it is argued that there is a significant need for equitable, open access to scientific and technical information which has been generated, collected, processed, and distributed with taxpayer funds. There is much stress placed on a proper governmental role to meet information needs not served well by the marketplace and to stimulate the development of information as a resource for dealing with societal problems.

In actuality, both perspectives have much validity and are legitimate ways of viewing the world. However, the most productive way to proceed with the STI and NTIS issues is not to argue in the abstract from philosophical principles. Rather we should look at the specific circumstances surrounding the organization and the nature of the Federal R&D enterprise and the complex set of relationships with STI.

The Federal Framework for STI

I noted earlier in the background section that Federal responsibility for STI has evolved gradually over the years and has come to encompass a large number of Federal agencies which produce information as parts of their R&D efforts and operations. Important features of these various STI activities and programs are that they are rich in variety and often integral with the basic missions of their agencies.

Allow me to give you an example from the Department of Energy, where I served before joining AAAS. The Department's STI appears in a wide variety of formats (bibliographic, numeric, full text, factual) and types. Many of the research results are made available through scientific journal articles and other commercial publications. In addition, large numbers of reports are prepared and distributed by DOE itself above and beyond the distribution through the NTIS. Also, there are numerous numeric and factual databases, some centralized and some maintained by originating sites. Because of the highly technical nature of much of this data, these databases must remain closely connected to the institutions where the technical expertise resides.

Other Departments and agencies have developed similarly sophisticated STI activities and programs covering an enormous range of topics and expertise. However, to facilitate access and provide a federal archival function in STI, the NTIS has evolved over the past twenty five years as noted earlier. An intricate set of relationships has grown over these years between the NTIS and the various agencies with respect to collection, storage, dissemination and distribution of STI. The NTIS has also been an important centralizing force in bringing about greater policy uniformity and coordination in Federal STI while retaining the strengths and values of decentralization associated with the agency programs.

Nothing has changed in recent years to lessen the intricate involvement of scientific and technical information with the Federal R&D enterprise, as stressed by Vannevar Bush over forty years ago. Indeed, with the rise in national concern about our international competitiveness, these connections have become even more central.

This central involvement and importance of STI in the context of our Federal R&D enterprise has led periodically to suggestions for greater centralization of government information activities. I do not think this is the way to go, given the kinds of arguments I and others have presented about the strength of American science and engineering arising from our pluralistic system of support and performance of R&D. Quite directly, STI activities must and should reflect this pluralism as an organizing principle within the Federal Government.

However, it does seem to me that a distinct and positive role for the Federal Government arises from a set of needs as follows:

o Determining how best to cope with an exploding quantity of STI in an increasing number of fields.

o Assuring a reasonable degree of compatibility among the various STI activities of various federal agencies. (And OMB has certainly focused on this issue as well as the Congress.)

o Coordinating the individual agency practices and policies with respect to STI.

o Establishing secrecy and access policies and practices which achieve an acceptable balance among competing interests.

o Establishing policies, mechanisms and programs leading to access and sharing of foreign STI (including foreign patent data).

o Supporting R&D on information technologies aimed at improving collection, storage, dissemination and distribution of STI.

Appraisal of NTIS

In your letter of invitation you asked for an evaluation of the present STI structure. Having already addressed the overall Federal structure generally, I would like to turn to the NTIS since it seems to be a major focus of current debate.

Overall, the customers of NTIS and its Federal partners seem to be satisfied with the organization. The record on this is rather clear. The public responses and agency responses to the OMB Federal Register notice in April 1986 taken in the aggregate strongly support the general NTIS organization and its relationships to the other Federal agencies.

Also, a Department of Commerce task force conducted a study of NTIS and concluded that NTIS has effectively balanced goals of (1) becoming self-sustaining from user fees and (2) responding to a wide array of public requests for governmentally produced information in a manner consistent with agency missions. This appraisal seems to be widely shared within the Federal Government and among many NTIS user communities.

Further, there are no obvious major defects or failures in the information collection and dissemination systems of other Federal agencies. The present pluralistic system, including NTIS, seems to be working reasonably well.

Having said this, I must note that problems do exist and need attention. The plant and equipment -- and especially the information technology components -- of NTIS are old and less efficient than they ought to be. There is a much larger reliance on manual processing of STI than there should be in today's modern information world. In short, NTIS is less efficient than it could or should be.

However, NTIS itself has long recognized this set of problems and has been working on ways to solve them. A key factor is, as you know, the matter of how best to authorize and establish what amounts to a capital account for NTIS. This would permit the kind of investment in modern information technology and other measures which would lead to substantial efficiency increases and improved service.

Achieving such efficiencies is one of the arguments advanced for the privatization of NTIS as it is for the establishment of a government corporation. However, it seems quite possible to deal with the capital account problem in the form of a public enterprise revolving fund without requiring substantial legislative or organizational change.

Recommendation

Our recommendation will be very short. It boils down to a version of this ancient saying: If it ain't broke, don't fix it.

Clearly we do not believe the scientific and technical information arrangements within the Federal Government are perfect. But to embark upon a new and uncertain approach with respect to STI -- either in the form of privatization or a government corporation -- would not seem to be the prudent choice unless severe current problems were to be corrected. But we do not believe that those problems which have been identified require major organicational and policy changes. Hence, my specific recommendations are as follows:

(1) Retain the basic structure of Federal STI -- including NTIS -- essentially as it is.

(2) Establish a legal basis for a public enterprise revolving fund for NTIS which can serve as a capital account for modernizing its facilities and operations.

(3) Encourage the Administration to establish a stronger focus on STI matters within the Office of Science and Technology Policy -- including a new focus within the Federal Coordinating Council on Science, Engineering and Technology (FCCSET). Such moves would serve to meet the needs outlined earlier for the Federal Government's role in STI.

Thank you for the opportunity to appear before you today.

Mr. WALGREN. Thank you, Dr. Trivelpiece. Mr. Shattuck.

Mr. SHATTUCK. Thank you, Mr. Chairman. I would like to begin by adding my thanks and the thanks of the associations that I represent to you, Mr. Chairman, and to Mr. Brown and the Subcommittee for the leadership you have exercised in protecting the Federal role in disseminating science and technology, most recently in barring further contracting out of the functions of NTIS.

I agree with much of what Mr. Shill and Dr. Trivelpiece have said, but I would like to offer in my opening remarks a somewhat different perspective on the question of the Government's role in creating a structure for collecting and disseminating scientific and technical information. I will begin by very briefly looking at this evolving structure in terms of its impact on traditional First Amendment values, and then take a look at the negative impact that parts of the structure that are in place are beginning to have on certain desirable scientific and technological communication practices, as well as on certain clearly identifiable national interests. And then finally, to look at the legislation you are considering to remedy some of these difficulties by insuring a continuing Federal role in promoting the communication of science and technology.

Mr. Chairman, from a First Amendment perspective, the broad and unimpeded communication of information is a bedrock principle in our society, obviously. That's not anything that we must be reminded of, but occasionally it is useful to bring it out. And the Government is really charged with protecting this principle, and in practice what this has meant in traditional terms is a very limited area of prior restraint or limitation on the communication of information. And then further, a limited system of classifying national security information which is in the hands of the Government.

In the case of scientific and technological information, these principles have been strained in recent years because a variety of Federal policies have been developed to restrict communication much more broadly. For example, as I am sure you are, of course, aware, export controls have been placed on a variety of categories of technical information—the classification system that I spoke of has been broadened substantially and proposals have been made to go even beyond the system of classification that we have and to restrict sensitive, unclassified data. Finally, new limitations have been placed on the kinds of communications that scientists can have between and among themselves in groups and in smaller and larger areas.

I think the question is why then is scientific and technological information being treated differently from other types of information which has been broadly communicated under the First Amendment. There are several justifications that have been offered, and I think the two that are most compelling in many respects are that scientific and technical information in some areas is inherently dangerous, or seen to be so, in that it can lead immediately to the creation of weapons systems or other forms of dangerous material. Second, that it is perhaps economically more useful than other forms of information that is more traditionally thought of in terms of the First Amendment.

And there is a general theory that is underlying the new restrictions of which I spoke, which I think speaks to the differential treatment of scientific and technological information and it's generally referred to in Government circles and elsewhere as the "mosaic theory," which is that bits and pieces of publicly available, individually—I hope that was for the last witness but I will not——

Mr. **Walgren**. You can take another four minutes.

Mr. **Shattuck**. That bits and pieces of publicly available information can be assembled to make something that is very dangerous—something that I refer to occasionally as the paradox of the H-bomb design which when you put it all together can be considerably more dangerous than in separate parts.

Now, this theory sounds very reasonable on the surface but in practice it has created some very troublesome effects, which suggest that it may be a cure far worse than the disease. And in my prepared statement I explore a variety of these practical effects in detail; let me just very briefly list a few that are treated at greater length there. First, the restriction of unclassified technical papers presented at scientific conferences is a phenomenon that we have seen recently. Second, some decisions by a number of scientific associations to reluctantly restrict their proceedings informally to foreign scientists in order to be able to discuss technical research without fear of running afoul of export control regulations.

Broader definitions of espionage we have seen occur in recent years, subjecting the publisher of any classified information to the risk of possible criminal penalties. New efforts to control all scientific and technical information in electronic data bases. And finally, of course, and most cogently to the proceedings here, proposals to limit the Government's role in publishing scientific and technical information. For example, by privatizing the National Technical Information Service.

Now, Mr. Chairman, the question, it seems to me, that ought to be asked as we look at this evolving structure is what is it doing to certain clearly identifiable national interests? And I think we are beginning to hear some of the answers.

First, as the National Academy of Sciences has been very careful to tell us on several occasions in recent years, basic scientific research in this country depends so much on open and free communication. And one only has to look at the Soviet example to see what can happen in the event that an overly restrictive system gets put into effect.

Second, the economic growth and international competitiveness of our country depends so much on open and free communication. Again, the National Academy of Sciences reported this year that export controls have cost $9 billion per year and 188,000 jobs.[26] National security itself depends in many respects on rapid scientific and technological development, and people like Dr. Edward Teller, who are certainly very strongly committed to a very broad defense system are deeply concerned about the development of some of the control systems, that I have been speaking about.

Finally, of course, democratic values of freedom of speech and openness in the society are all implicated.

---

[26] *Balancing the National Interest: U.S. National Security Export Controls and Global Economic Competition* (Washington: National Academy Press, 1987).

Let me just finally turn, with that kind of broad background which I hope I have contributed to this Committee's proceedings in a somewhat different way than other witnesses, to the legislative proposals that you are considering to shore up and open up aspects of our national STI structure.

At the center of the structure stands the National Technical Information Service, which admirably has served universities and libraries and industry and the general public for more than 30 years. And on page 10 of my statement I list a number of the very important aspects of the Service's functions from the point of view of research libraries and universities.

We are concerned that efforts to turn this service over to private development could lead to a variety of serious erosions and changes in some of the aspects of its public service that are identified in my statement. We're concerned about the probable elimination of documents with low sales value, the probable loss of a permanent archival collection of older reports, the probable loss of foreign research reports, increased prices for documents, establishment of proprietary rights over NTIS products, and the increasing pressure to delete sensitive but unclassified information.

With that in mind, Mr. Chairman, the proposal that— the two proposals before you certainly are each very admirable efforts to save this essential service. The proposal in H.R. 2159 to establish NTIS as a government corporation would, in our view, do a great deal to preserve its essential nature. On the other hand, we have some reservations about the centralization of all government information activities in a single agency as would be done under H.R. 1615. In a complex and large government such as ours, it seems preferable to place responsibility for collecting information in each agency, while giving a reconstituted NTIS the responsibility for circulating that information as it now does.

Apart from the structural issues, we favor a strengthened system of Congressional oversight of Executive Branch information policies, and I know that that is certainly the thrust of both of the legislative proposals.

Let me simply close by suggesting reasons for optimism, that the Federal information policy concerns that this Subcommittee is expressing in efforts to make more rational and useful the policies of the Executive Branch. I think there is optimism to think that we will be able to achieve some of your goals. A growing national concern about U.S. competitiveness, and a desire to unleash science and technology to serve the economy, is certainly there. A public concern about excessive secrecy and compartmentalized decisionmaking that we see in the unfolding Iran-*contra* affair is another backdrop for that. And I think finally, there is really little evidence that the restrictive policies I have described are having the effect that they were intended to have and, in fact, are having quite a number of rather negative effects.

So for all these reasons, Mr. Chairman, Mr. Brown, we certainly look forward to offering the Subcommittee any help that I and the associations I represent can provide as you work toward this very important goal. Thank you.

[The prepared statement of Mr. Shattuck follows:]

STATEMENT OF

JOHN SHATTUCK

VICE PRESIDENT FOR GOVERNMENT, COMMUNITY AND PUBLIC AFFAIRS

HARVARD UNIVERSITY

ON BEHALF OF THE

ASSOCIATION OF AMERICAN UNIVERSITIES

AND THE

ASSOCIATION OF RESEARCH LIBRARIES

ON

FEDERAL POLICIES RELATING TO THE COLLECTION AND DISSEMINATION OF SCIENTIFIC AND TECHNICAL INFORMATION

BEFORE THE

HOUSE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY

JULY 14, 1987

I. INTRODUCTION

Thank you for the opportunity to appear before you to discuss federal policies relating to the collection and dissemination of scientific and technical information. I appear on behalf of the Association of American Universities and the Association of Research Libraries. The Association of American Universities is an organization of 56 research universities with preeminent programs of research and graduate and professional education. The Association of Research Libraries is an organization of 118 of the largest academic and other research libraries in the United States.

As an academic administrator, teacher and civil liberties lawyer, I have spent much of my professional life dealing with issues that concern the reach of the First Amendment -- what it protects, what it requires, what it means, what it doesn't mean. From that perspective, a hearing like this addresses one of our most important constitutional principles: because the government's role in promoting the free flow of information is at the core of our tradition of freedom of speech. The aggregate impact of government information policies can profoundly affect our capacity to function effectively as a democracy and our capacity to maintain a vigorous, competitive science and technology enterprise.

I would like to discuss government policies relating to scientific and technical information in terms of recent trends that have had the effect of reducing the collection and communication of such information. I will discuss these trends first in terms of their impact on traditional First Amendment values.

II. FEDERAL INFORMATION POLICY AND THE FIRST AMENDMENT

Freedom of thought, speech and of the press are all essential to a functioning democracy, and to the expression and growth of individuals and of groups in the larger society. So compelling are these principles that under traditional First Amendment doctrine only an overwhelming danger can justify a prior restraint on communication. The theory, of course, is that the remedy for dangerous speech is more speech, not restriction of speech, and that sunlight is the best disinfectant for bad ideas.

Until quite recently the First Amendment made room for only two limits that the government could impose on the free flow of information. In the case of information controlled by the government, sensitive data could be classified in the interests of national security. In the case of information not controlled by the government, publication could be restricted only in the most extraordinary circumstances, usually involving military action, such as information about the sailing dates of troopships or plans for battle.

These principles may seem anachronistic at a time when foreign spies are less interested in the sailing date of a troopship than they are in the information base of an industrial technology. But the concept of free and open communication is more important than ever in a world where information and knowledge are the most important resources we have. The question is, how can the government best protect these valuable information resources? Putting the question more starkly, can we promote the growth of information and knowledge on the one hand, while restricting their communication on the other?

In recent years this question has created substantial difficulties for traditional First Amendment principles.

In policy terms, we have seen increasing government management of scientific and technical information. In legal terms, we have an expanding law of prior restraint and a growing system of classified information. In academic terms, we can observe a reduction of scholarly exchanges and a restriction on the conduct of open research. And in human terms, we can take note of the chilling effect that communication restrictions can have on personal and intellectual relationships among scientists.

Why are we faced with these challenges to traditional First Amendment principles in the area of science and technology? One reason is that scientific information is different from other kinds of information protected by the First Amendment. Science can create things that are inherently dangerous, like weapons systems. Technology has a clear and immediate economic utility and is therefore more like a commodity than an idea. Scientific or technological breakthroughs are often produced with the direct involvement of government as a sponsor of research. And finally, technical data is different from other kinds of communication because even in its most pristine form, a scientific discovery is likely to be closer today than it would have been a decade ago to the stage of practical application.

Each of these characteristics of science and technology has been used in recent years to justify creating a wide range of federal regulatory regimes that are anathema to traditional First Amendment principles.

At the center of these regimes is a theory -- a theory that is threatening to transform the way we look at scientific and technical data and perhaps other kinds of information as well. The theory, simply stated, is that certain information is inherently dangerous and must be restricted by the government -- even if the government doesn't own or control it, even if it is already publicly available, even if it is the product of a private discovery, and even if it is not by itself likely to cause any damage.

This is what is known as the "mosaic theory" of information. Its origins can be traced to what I call the paradox of the H-Bomb Design. This paradox involves the availability today of extensive public data-bases and sophisticated search techniques that can be used to piece together bits of innocuous unclassified information to produce an aggregate product that may be very dangerous -- like the

H-Bomb design. That is exactly what was done by a writer for Progessive Magazine in 1979. When the government went to court to try to stop publication of the Progressive it could not get an injunction because all the information in the article had been obtained from open scientific documents.

What we have as a result of this paradox is the development of an increasingly restrictive federal policy toward the communication of scientific and technical information. This policy includes a much broader classification system; an extensive system of export controls on many categories of technical information; proposed restrictions on "sensitive unclassified" data; and new limitations on the kinds of communications that scientists can have among themselves.

The narrow and benign view of these policy developments is that the new restrictions require only a "minor adjustment" of the First Amendment to fit the conditions of contemporary science and technology. But there are a great many difficulties in establishing narrow definitions of what information can be restricted, and we are learning that the end result of broadly restrictive policies is likely to be more damaging to our national interests than the evils they are intended to cure.

III. PRACTICAL EFFECTS OF RESTRICTING THE COMMUNICATION OF SCIENCE AND TECHNOLOGY

A review of some of the practical effects of recent federal policies to restrict the communciation of science and technology clearly demonstrates the danger in the current trend.

One effect can be observed in scientific conferences. Traditionally the best forum for exchanging scientific and technical information, scientific conferences have been negatively effected by government information policy during the last few years. The best known examples are two photo-optics conferences in 1982 and 1983 sponsored by the Society of Photo Optical Instrumentation Engineers. 150 of approximately 900 unclassified papers in the two conferences had to be withdrawn at the last minute as a result of Department of Defense warnings that they might violate export control regulations.

Protest by scientific organizations led to two clarifying moves by the federal government, neither of which went to the heart of the problem. The first was the issuance of a National Security Decision Directive in September 1985, exempting unclassified basic research from restriction, with one significant caveat: "except as provided in applicable U.S. statutes." One such statute is the Export Control Act, which authorizes restrictions on the export of "technological data". A second clarifying move was the issuance by DoD of a rule in February 1985 establishing procedures "for consideration of national security in the dissemination of scientific and technical information at conferences and meetings."

Not much changed following the promulgation of these two rules.

In June 1986, for example, the Linear Accelerator Association held its annual conference and 13 unclassified papers had to be submitted for clearance 6 weeks in advance. On the eve of the conference DoD refused to approve them because of the Export Control Act; an urgent appeal to the Secretary of Defense cleared 10; 3 were left out entirely.

A second effect of the restrictive information policies can be seen in the reduced amount of contact and collaboration between U.S. and foreign scientists. In order to avoid the kinds of problems the photo-optical engineers had experienced, some scientific and technical societies have informally barred foreign scientists from attending their meetings. These include such prestigious associations as the Society of Manufacturing Engineers, the American Ceramics Society and the Society for the Advancement of Material and Process Engineering.

Classrooms are another area where U.S. scientists must be careful about foreign contacts. For example, a materials science course offered at UCLA in 1984 on "Metal Matrix Composites" had to be restricted to U.S. citizens because it involved unclassified technical data appearing on an export control list. Another example was an effort by the Department of State in 1981 to get universities to report on any campus contacts between U.S. citizens and Chinese exchange students.

A third area where U.S. scientists are having increasing difficulty in collaborating with their foreign counterparts is the area of instrumentation and equipment. One prominent example involves supercomputers -- the next generation of computer technology. Here the government is not trying to restrict access to information, but only access to a highly advanced computational capacity. For the last two years there has been a debate inside and outside the government over whether universities should be required to exclude Communist-country students and faculty members from supercomputer facilities.

A particularly troublesome aspect of the restricted contact between U.S. and foreign scientists is the authority that the State Department has under current law to bar foreigners from visiting the U.S. on the basis of their ideological or political backgrounds. In recent years this authority, which dates back to a statute passed by Congress at the height of the McCarthy Era, has been used to exclude some 800 to 900 foreign visitors each year based on their associations with foreign political organizations that appear on a State Department black list.

Beyond these restrictions on contacts between U.S. and foreign scientists, we are beginning to see general categories of research designated as inherently sensitive and therefore subject to government control. A prominent example is cryptography: since 1981 this field has been affected by a National Security Agency designation as sensitive; most cryptologists now routinely submit their work to NSA for prepublication reviews.

Nuclear energy is another scientific field that is increasingly secret. In 1981 Congress amended the Atomic Energy Act to authorize the Secretary of Energy to regulate "the unauthorized dissemination of unclassified nuclear information". Although the regulations that have been issued are reasonably narrow, the area of nuclear research is clearly affected.

Beyond these specific areas of science research, virtually all government-sponsored research is potentially affected by the new climate of restricted scientific communcation. For a long time many federal research contracts have contained prepublication review clauses. These clauses are theoretically available to limit the dissemination of government-sponsored research results, but they have rarely been used for such purposes until recently. By far the fastest growing category of scientific and technical information now restricted by contract is the research conducted under the Pentagon's so-called "black budget" for military research and development, about which virtually nothing is made public and which increased last year by 16% to $22 billion.

Another practical effect of the new climate of restricted communication involves a redefinition of what constitutes espionage against the United States. With all the furor about increased spying by U.S. citizens, little attention has been paid to the way our espionage laws are now being interpreted by both the executive branch and the federal courts. This broad interpretation has had little effect on cases of genuine espionage, but may have a serious impact on scientific and technical publications in the U.S. According to the government's position, which has been accepted by at least one court, a person is guilty of espionage if he publishes information that he has reason to believe the government intends to keep secret, even if he has no intention to damage the national security and no damage actually occurs. This interpretation is somewhat like the British Official Secrets Act, which makes a person strictly liable for communicating any government secret.

A final area I want to mention in this brief review of the practical effects of restricting the communication of science and technology involves scientific and technical information in electronic data bases. This is by far the largest category of potentially restricted information, because it covers virtually all commercial, academic and governmental computerized information systems. The theory behind the need to control this information, of course, is once again the theory of the "information mosaic" — bits and pieces of seemingly harmless data that can be assembled through sophisticated electronic searching in such a way as to be damaging in the aggregate.

Most of the attention in this area has been focused on a National Security Council Directive promulgated last fall by the Admiral Poindexter, the President's former National Security Advisor. The Poindexter Directive sought to restrict not only unclassified information affecting national security interests, but also any computerized information that could affect "other government interests, including but not limited to economic, financial, industrial, agricultural, technological, and law enforcement information."

Poindexter's directive raised the specter of U.S. intelligence agencies monitoring and regulating virtually all commercial and academic data bases and information exchanges in this country. The directive was withdrawn in April under congressional pressure, but the underlying policy is still in place. The policy is set out in National Security Decision Directive 145, which requires the National Security Agency to develop "a comprehensive and coordinated approach" for all telecommunications and automated information systems, under the theory that "information, even if unclassified in isolation, often can reveal sensitive information when taken in the aggregate." Last month the House passed HR 145, the Computer Security Act of 1987, which transfers responsibility for developing a government-wide computer security program from the National Security Agency to the National Bureau of Standards. The legislation is silent on the issue of whether new categories of restricted information can be introduced as part of the program.

A special target of the restrictive policy for electronic data bases is the federal government's traditional role as a clearinghouse for scientific and technical information. As this Subcommittee is well aware, serious efforts are now underway to "privatize" the National Technical Information Service, which issues 2-1/2 million technical reports every year -- more than any other science publisher in the world. In Section V, I will address in detail the dangers in this approach toward NTIS and the legislative proposals which have been offered to preserve the service as a government entity.

IV. LONG-TERM EFFECTS OF RESTRICTIVE FEDERAL INFORMATION POLICIES

What are the likely long term effects of a federal policy that increasingly restricts the communication of science and technology?

The first and most obvious is that too many restrictions will lead to a stagnation of basic science. We do not have to go further than the Soviet Union for the best example of what can happen. According to the American Physical Society, Soviet solid state electronics and biology are far behind our own because of official restrictions on scientific communication. The Defense Department has reported that in 20 key technologies the U.S. is leading in 14 and is at least tied in 5. More generally, the National Academy of Sciences warned in a report last year that the continued health of U.S. science depends on openness and communication.

A second effect that we are already feeling is the negative impact of all these restrictions on the economy. Another National Academy of Sciences report issued in April of this year indicates that the cost to the U.S. of the current regime of export controls is 188,000 jobs and $9 billion a year. This is so because our own economy depends substantially on foreign expertise. For example, 42% of all PhD engineers entering the work force every year are foreigners who are vitally needed because of a chronic U.S. shortage of engineers.

One unintended result of export controls is the funnelling of more business to Japan and other competitive nations. According to the NAS Report 38% of U.S. exporting companies have reported losses of sales to foreign competitors because of export controls. Another economic problem is the inability of U.S. investors to get information about new corporate technologies that are covered by export controls.

A third negative effect, ironically, is on our national security itself. Most experts agree that our long-term security needs depend on rapid technological development, which is not possible if broad communication restrictions are in place. It is interesting to note that this is the position of Dr. Edward Teller, who is widely credited with being both a father of the H-Bomb and the father of the Strategic Defense Initiative.

Last but certainly not least, democratic values, freedom of speech, and the openness of our society are all likely to be eroded if we continue down this path.

Let me attempt to pull all these damaging long-term effects together with a very real current illustration of the way scientific communication should work but will not work if federal information policy continues in the direction it is going. On March 18, thousands of physicists from around the world crowded into the ballroom of the New York Hilton to hear the latest developments in the discovery of low-temperature superconductors. Most scientists believe that these new materials will revolutionize a whole range of existing technologies -- from electrical power generation and transmission to computers and telecommunications.

The story began slightly more than a year ago at an IBM lab in Zurich, where two Swiss scientists succeeded in creating a ceramic material that can conduct the flow of electricity without losing energy at very low temperatures. This discovery was published in an international scientific journal, and scientists in Houston, Tokyo and other cities here and abroad began a race to develop a practical method of raising the temperature for superconductors so that the revolutionary new technology could be put to use. As of last month it appeared that the race would be won by a team of physicists from the University of Houston, most of whom are not U.S. citizens.

Only one segment of the industrialized world seems to have been left out in the cold during this extraordinarily fertile year of discovery and communication. Not surprisingly, perhaps, the Warsaw Pact nations have played no part in all of this. No one sought to exclude them, but they are weighted down with travel restrictions, bureaucratic restraints on contacts with foreigners, and a widespread suspicion of telephones and copying machines. Fortunately, our own preoccupation with secrecy seems, in this case at least, not to have gotten in the way of our pursuit of good science -- and we are much better off as a result.

V. LEGISLATIVE PROPOSALS TO ENCOURAGE THE COMMUNICATION OF SCIENCE AND TECHNOLOGY

In reviewing the recent trend in federal executive policy toward restricting the communication of science and technology, it is useful to refer to the work of this Committee in establishing legislative policy in this area. The National Science and Technology Policy, Organization and Priorities Act of 1976 (P.L.94-282), which was drafted by this Committee, provides that the federal government is responsible for:

- -- promoting the transfer of scientific and technological information;
- -- coordinating and unifying federal scientific and technological information systems; and
- -- facilitating the "coupling of institutional scientific research with commercial application of the useful findings of sciences."

With this legislative policy as background, let me comment on two recent bills that have been introduced to alter one aspect of existing federal information resources policy -- HR 2159 to establish the National Technical Information Services as a government corporation, and HR 1615 to establish a government information agency.

You are already familiar with arguments against the Administration's proposal to privatize NTIS. Let me therefore briefly summarize the principal concerns of research universities and libraries of the consequences of privatization:

- -- the probable elimination of documents with low sales potential;
- -- the probable loss of a permanent, archival collection of older reports;
- -- the probable loss of foreign research reports;
- -- increased prices for documents;
- -- the establishment of proprietary rights over NTIS products;
- -- commercially driven decisions about all collections and services; and
- -- increasing pressure to delete "sensitive" but unclassified information.

NTIS was created more than thirty years ago to "make the results of technological research and development readily available to industry and business, and to the general public," so that this information could be used to stimulate economic competitiveness and productivity. The research university and library community believes that NTIS has been performing admirably and that Congress should therefore proceed with caution in enacting substantive changes.

As the Subcommittee examines alternative structures for NTIS, it is essential to consider the impact of each proposal on the current mission and services of this vital agency. The most significant functions of NTIS that facilitate the effective transfer of scientific and technical information are:

- -- the continued availability, free from any copyright restrictions, of federally funded reports;
- -- the permanent availability of scientific and technical reports;
- -- a comprehensive and centralized source for timely identification and description of federally supported scientific and technical reports and the continued availability of this bibliographic information in the Depository Library Program; and
- -- a centralized source for the sale of such reports at reasonable prices.

Although we believe that the Administration's proposal to privatize NTIS would severely cripple the agency, we think that the proposal to establish NTIS as a government corporation holds considerable promise for significantly strengthening the capacity of the service to respond to increased demands for scientific and technological information to meet the challenges of a dynamic and competitive world market. It is worth noting that the general concept of HR 2159 is congruent with the recommendations of a recent report by a panel of the National Academy of Public Administration. A particularly important feature of the bill is that it ensures that the new government corporation would continue to participate in the Government Printing Office Depository Library Program upon which nearly all of our member institutions depend to receive U.S. Government publications.

We have reservations about the creation of a single federal information agency as proposed in HR 1615. We see much merit in what we understand to be the general intent of the legislation -- to provide a coherent set of policies governing federal information resources, with improved Congressional oversight of those policies. We are concerned, however, that in a government as large and complex as ours, with a responsibility to serve a wide array of information users, such centralization of information policy as would be established by HR 1615 might create more problems than it would solve. Apart from the establishment of a new agency, however, there is clearly merit in examining whether the existing mechanism for Congressional oversight of executive branch information policies and practices should be strengthened.

VI. CONCLUSION

Let me conclude by saying that there are mixed signals today about whether the recent trend toward a more restrictive federal information policy is subsiding. Certainly the interest of this Committee in looking at the nature and impact of this trend is significant. In addition, I believe there are some important recent developments that are favorable to a change in policy.

First, the Iran-Contra affair has increased public understanding of the danger of excessive government secrecy and compartmentalized decisionmaking.

Second, the growing national concern about U.S. competitiveness has created strong pressures for an unleashing of science and technology to serve the economy.

Third, after a decade of growing secrecy there is very little evidence that restrictive information policies are achieving their purposes, and there are many other developments, such as the increase of "insider espionage", that are undermining them.

How, then, can strategies be developed for reversing the trend toward more restriction of scientific communication? I have no grand plan to offer, but a simple rule of thumb to suggest: overbearing restrictions on the flow of scientific and technical information can severely hurt the process of discovery, invention, research, and development no matter what one's view of the role of government may be. This proposition has no political label, and that should help to establish its broad appeal.

Thank you for this opportunity to appear before the Subcommittee.

* * * * *

Mr. Walgren. Thank you, Mr. Shattuck. Let us then turn to Professor Weingartner.

Dr. Weingartner. Thank you, Mr. Chairman, and Representative Brown. Thank you for the opportunity to appear here. My name is——

Mr. Walgren. I will ask you to pull that mike right in. These mikes tend to be very directional and apparently designed not to pick up other conversation. So if you really speak right into it you will find it really does project very easily.

Dr. Weingartner. Thank you. My name is H. Martin Weingartner, I am a professor at the Owen Graduate School of Management of Vanderbilt University, and immediate past president of The Institute of Management Sciences. I represent the Council of Scientific Society Presidents, which is made up of the presidents of over 30 scientific societies with a cumulative membership of approximately 800,000 spanning the physical, mathematical and life sciences.

As a member of CSSP, I chaired a committee which wrote a position statement on H.R. 1615 and 1616 which was adopted by the full Council in May and which is attached to my written remarks. I might add that H.R. 2159 had not yet been introduced when my committee did its work.

In brief, the position statement on H.R. 1615 strongly supports the proposition that government information is a vital economic and social resource; that citizens have a right of open access to unclassified, non-proprietary, non-private information; and that effective dissemination of this information is necessary for the achievement of national goals. The statement also stresses the importance of ease and reasonableness of cost of access, the essentiality of good indexing and abstracting, and the necessity for archiving of government information. These principles are substantially also contained in H.R. 2159.

The concerns expressed by CSSP are concentrated on two issues. The first is that the proposal to include dissemination of Government statistical information, in H.R. 1615, by a new agency should be approached with great caution. Interposition of an additional agency between the statistics collecting agency and the data user may create delays and could make the use of the data more difficult. Also, funds available to a Federal agency for collecting and processing statistics are likely to be reduced if revenues from the sale of statistical information are taken from the collecting agency, or allocations for distribution of the information are taken away.

We have expressed our concern that statistics gathering by the Federal Government is not nearly keeping pace with the growth in size and complexity of the economy. This impacts adversely not only the Executive Branch and Congress, but also hurts the business world and researchers in universities.

In view of the desire, which was also expressed in H.R. 2159 to provide effective indexing and abstracting of government information, among other issues which we regard as highly important, we expressed concern over the adequacy of the proposed funding level.

Next, I wish to turn to the principal questions before the Subcommittee this afternoon. My personal bias on issues of private versus government activity favors the private sector. Still, we—and here I speak for the Executive Board of CSSP—approach the proposal to privatize the National Technical Information Service with considerable trepidation.

First, NTIS won for itself strong support from the research community. The system works. Access to research reports is quite simple and reliable, documents are comparatively fairly priced even while the Service is self-supporting, and documents are obtainable within reasonable time delays. It has not been demonstrated that activities now carried on by NTIS, if they were privatized, would be carried out more effectively or more economically either to the Government or to information users.

The transition to private management is likely to prove highly disruptive to users. Further, the evidence to date suggests that not all present services would be picked up by the private sector. Congress may have to mandate activities such as archiving reports; otherwise, we may find that availability of infrequently requested items ceases after as short a period as a year. And I might add that present tax laws, and especially the Tax Reform Act of 1986, as they pertain to the treatment of business inventories, really strengthen this inference.

The private sector already plays a significant role for users, such as providing online access to the NTIS index. Private enterprise involvement in the total service can and will expand, and other premium services could and should be offered by private firms as is now the case.

Market discipline that keeps quality of service up and costs of service down, however, is not likely to function with regard to collection, storage and retrieval of information items. It seems unlikely that more than one firm would be willing to take over the entire set of tasks that is central to NTIS, and yet one-stop shopping is the reason for the existence of NTIS in the first place.

To sum up, we generally favor the approach taken in H.R. 2159 which retains NTIS as a self-supporting activity of the Federal Government. The bill permits contracting out such tasks as abstracting and indexing of government material, and leaves room for private business to furnish premium services. It also protects the integrity of the Government information collection.

Including dissemination of Federal statistics in the new agency implies risks which, so far as we can judge, are not adequately compensated for by the advantages to be gained. Thank you.

[The prepared statement of Dr. Weingartner follows:]

COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

STATEMENT
of
DR. H. MARTIN WEINGARTNER
on behalf of the
COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS
to the
SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
U.S. HOUSE OF REPRENSENTATIVES
on
GOVERNMENT INFORMATION POLICY
Tuesday, July 14, 1987

1155 16th St., N.W., Washington, D.C. 20036 (202) 872-4452

The views expressed by CSSP are those of its members and do not necessarily represent the official position of their respective organizations.

Background

Mr. Chairman and Members of the Subcommittee, my name is H. Martin Weingartner. I am a professor at the Owen Graduate School of Management of Vanderbilt University and Immediate Past President of The Institute of Management Sciences. I am representing the Council of Scientific Society Presidents (CSSP), chaired by Dr. L. Manning Muntzing, who accompanies me today. The Council of Scientific Society Presidents is made up of the presidents and other senior officers of over 30 scientific societies with a cumulative membership of approximately 800,000 spanning the physical, mathematical, and life sciences.

As a member of the CSSP, I chaired a committee which drafted a Position Statement on H.R.1615 and H.R.1616 which was adopted by the full Council in May. (I should point out that H.R.2159 had not been introduced by Representative Walgren at the time the CSSP committee did its work.)

For the record, I have provided as an attachment the Position Statement adopted (on May 13, 1987) by the full CSSP addressing those two pieces of legislation introduced by Mr. Brown.

In brief, the Position Statement on H.R.1615 and H.R.1616 strongly supports the proposition that government information is a vital economic and social resource; that citizens have a right of open access to unclassified, non-proprietary, non-private information; and that effective dissemination of this information is necessary for the achievement of national goals.

The Statement also stresses the importance of ease and reasonableness of cost of access, the essentiality of good indexing and abstracting, and the necessity for archiving of government information. These principles are substantially also contained in H.R.2159.

The concerns expressed by the CSSP are concentrated on two distinct issues. The first is that the proposal to include dissemination of government statistical information by a new agency should be approached with caution. There is need for greater standardization of data formats which a new agency may be able to bring about. Yet, interposition of an additional agency between the statistics collecting agency and the user of the data may not only create delays but could make it more difficult for consumers of the data to be able to use it.

In view of the desire, which was also expressed in H.R.2159, to provide effective indexing and abstracting of government information, among other issues, which we regard as highly important, we expressed concern over the adequacy of the proposed funding level.

Privatization Issue

Next I wish to turn to the principal questions before the Subcommittee this afternoon.

My personal bias on general issues of private versus government activity generally favors the private sector. Still, we (Here I am speaking for the Executive Board of the CSSP.) approach the proposal to privatize the National Technical Information Service (NTIS) with considerable trepidation. First, NTIS has won for itself strong support from the research community. The system works: access to research reports is quite simple and reliable; documents are comparatively fairly priced even while the Service is self-supporting and documents are obtainable without unreasonable delay. Improvements in these dimensions naturally are always desired. New technology will make some changes feasible even within the framework of fiscal self-sufficiency.

It has not been demonstrated that activities now carried on by NTIS, if they were privatized, would be carried out more effectively or more economically, either to the government or to information users. The transition to private management is likely to prove highly disruptive to users. Further, the evidence to date suggests that not all present services would be picked up by the private sector. Congress may have to mandate activities such as archiving reports. Otherwise, we may find that availability of infrequently requested items ceases after as short a period as a year. Present tax laws, and especially the Tax Reform Act of 1986, as they pertain to the treatment of business inventories, strengthen this inference.

The private sector already plays a significant role for users, such as providing on-line access to the NTIS index. The role for private enterprise involvement in the total service can and will expand, even under present arrangements. Other "premium" services could and should be offered by private firms, as is now the case, for example, with certain information collected and disseminated by the Securities and Exchange Commission. Marketplace competition offers rewards to entrepreneurship and innovation here. Market discipline that keeps quality of service up and cost of service down, however, is not likely to function with regard to collection, storage, and retrieval of information items. It seems unlikely that more than one firm would be willing to take over the entire set of tasks that is central to NTIS. Yet, "one stop shopping" is the reason for the existence of NTIS in the first place.

Notwithstanding these remarks, there is a considerable potential for participation by private firms in the performance of a number of the functions assigned to the National Technical Information Corporation (NTIC) in H.R.2159. Some of this is not just potential but already exists. In particular, under Section 17(k), the Corporation is directed, among other duties, "...to index and catalog such information...", and "...to make such information available...through the preparation of abstracts, digests, translations, bibliographies..." In many instances, timeliness of the information is crucial and performing these essential tasks exclusively in-house may delay the availability of reports and other information. It would be appropriate for NTIC to contract out some of these tasks, as does the National Medical Library, for example, so long as the Agency is held responsible for the resulting products.

Additionally, private firms exist which serve as "information brokers" to libraries and other information users. They already fill in gaps by simplifying the acquisition of both government and other materials for libraries where multiple items or standing orders are involved, for example. These firms generally do not inventory the items but transship them, in most instances. They are also able to sell on credit, if they are willing to take the credit risk, which the NTIS cannot do. Such firms exemplify the "premium services" for which some users are willing to pay while not all users are forced to do so.

In sum, we would judge that the optimum balance strongly favors retention by the Federal Government of substantially all present NTIS activities, such as is proposed in H.R.2159, except as already discussed. This leaves plenty of room for private business to expand the range of services as they discover a demand for them.

Structure of Dissemination Activities

In response to the question regarding the structure of all government information, I have already expressed CSSP's concerns regarding statistical information. The trade-offs between centralizing the dissemination of government statistics and retaining this function in their present agencies currently favors the latter. Timeliness, accuracy, and possibly cost considerations argue in favor of maintaining organizational proximity between collectors and disseminators of statistical information. Such data are always processed by the collecting agency. Additionally, when made available to users in electronic form, such as census data on computer tape, knowledge of data formats by personnel of the distributing agency is essential. Users must have access to such personnel. The collecting agency has less of an incentive to offer such service when sale of the information is handled at another agency. Training of experts by the collecting agency introduces time delays, cost and increased chances for communicating incorrect information.

One additional comment on this subject seems appropriate. Funds available to a Federal agency for collecting and processing statistics are likely to be reduced if revenues from the sale of statistical information are taken from the collecting agency, or if allocations for distribution of the information are taken away. We have already expressed our great concern that statistics gathering by the Federal Government is not nearly keeping pace with the growth in size and complexity of the economy. This impacts adversely not only the executive branch of the government and Congress but it also hurts the business world, as well as researchers in universities.

Information Policy Management

The question of information policy management is a vexing one. As is the case with numerous evolving technologies, prematurely locking into standards of form or substance can be more harmful than failing to set such standards. The present state of information technology argues against setting standards now that would apply to all information formats, especially as they apply to electronic information sources. The same conclusion applies to the system for the creation of abstracts and indexes and similar products. A Federal "Information Czar" would feel compelled to make rules, even though the present state of knowledge does not justify them in many areas.

Despite this observation, greater coherence in Federal information policy is desirable. The President's Science Advisor has been charged with that duty for some time. Lack of follow-through on this subject, despite turnover in that office, suggests the difficulty of the task as much as, perhaps, the relatively low priority given it.

Summary

To sum up, let me state that we generally favor the approach taken in H.R.2159, which retains NTIS as a self-supporting activity of the Federal Government. The bill permits contracting out such tasks as abstracting and indexing of government material, and leaves room for private business to furnish "premium services". It also protects the integrity of the Government information collection.

including dissemination of Federal statistics in the new agency implies risks which, so far as I can judge, are not adequately compensated for by advantages to be gained. At some not too distant time in the future, when certain technological standards have been set, it may be useful to take another look at this subject.

Thank you.

ATTACHMENT

COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

Position Statement

Regarding Legislation on Establishing a Government Information Agency

May 13, 1987

The Council of Scientific Society Presidents (CSSP) endorses the following general principles with respect to bills H.R.1615 and H.R.1616 on the subject of Access to Federal Government Information, introduced by Representative George E. Brown, Jr.

1. Information collected by the Federal Government is an invaluable resource for the economy and for society. Legislation that promotes full utilization of this resource deserves the support of the scientific community.
2. Access to unclassified, non-proprietary or non-private information collected by the Federal Government must be uninhibited. Open access to this information is a citizen's right in a free society and is essential to the achievement of national goals.
3. The Federal Government has a responsibility to insure that the information it collects is disseminated effectively.

In light of these general principles, CSSP further asserts that any legislation in this area should embody certain policies:

1. Access to Federal Government information should be simple and economical. The information itself should be accurate and timely.
2. Collection of information by the Federal Government must be adequately funded, particularly when the Federal Government is the only body able to obtain the information.
3. The Federal Government should develop indexes and abstracts of its source materials so that information seekers can easily and effectively retrieve what they need.

1155 16th St., N.W., Washington, D.C. 20036 (202) 872-4452

The views expressed by CSSP are those of its members and do not necessarily represent the official position of their respective organizations.

4. Federal Government information must be archieved, even if the archiving activity cannot be made self-supporting, since future needs for the information cannot be anticipated.

5. Federal Government information must be marketed to those who can benefit from it in order to maximize its value to the nation.

CSSP endorses H.R.1616. It also endorses the objectives of H.R.1615 (insofar as it pertains to the sale of government information), but expresses its concerns with H.R.1615:

1. Passage of the legislation must not be allowed to reduce funding of information collection activities, especially government statistics, which are already woefully underfunded.

2. The proposed new central agency will be an intermediary between the users of information and the agencies that collect it. The legislation should require the information agency to provide assistance in interpreting data formats. This assistance is now provided by the collecting agencies.

3. Funding of the agency as proposed in the legislation does not appear adequate to accomplish the objectives central to its purposes:

   (a) centralized and improved indexing services;

   (b) research into better abstracting schemes and implementation of these improved schemes;

   (c) developing standards for information interchange or, at a minimum, of standards for specifying document and data formats.

4. The private sector now offers "value-added" services connected with Federal Government data bases. The legislation should encourage these complementary private sector activities and not impede them.

5. The name "Government Information Agency" has negative connotations such as invasion of privacy. A more appropriate name, without these connotations, should be selected.

Mr. **Walgren**. Thank you, Professor Weingartner. Let me ask the panel generally, is it true that the use of NTIS in terms of volume has fallen dramatically, and to what do you folks attribute that to. And thirdly, Dr. Trivelpiece mentioned that you have to focus on the internal structure and how things are being carried out. And I don't want to put words in his mouth but the idea was that they have been operating under a handicap. Can you measure how well they are operating now and whether improvements internally, I gather, as to equipment and information technology, would improve this situation?

I apologize for asking in three parts or two parts but I'd like to hear your conversational responses to that. Can we start in the order that we went through the panel to begin with? Dr. Shill?

Dr. **Shill**. I don't have a clear explanation for why recorded use—is this use or sales of NTIS documents, sir?

Mr. **Walgren**. I confess not to know. Probably sales.

Dr. **Shill**. All right. I presume that it is sales. I would say there might be several reasons for this. One of them would be that we do a good deal of online searching of the NTIS database now, which goes back, I believe, to the late 1960's, and it is our fourth most heavily used database among the more than 500 to which we provide access in my own library. And people are able to get a short summary or abstract of the article as a result of the search, and they are probably able to identify their preferences a little bit more precisely by doing that. That would be one thought that I might have.

I am, frankly, a little bit surprised at the conclusion, though, because we stress NTIS very heavily in our user instruction program to virtually all of our graduate engineering students, and many of the advanced undergraduates are exposed directly to *Government Reports Announcements and Index*, and we emphasize that nobody should be doing a dissertation or submitting a research grant without doing an online search in the NTIS database.

So I think I've responded to the first part of your question. Could you repeat the second and third parts?

[Laughter.]

Mr. **Walgren**. The second part is because they have operated under, apparently, a rigid financial reinvestment policy and had to give their money back to the general revenue, and they have not been able to acquire the kinds of efficient information handling systems that might enable them to do their job better—is that obvious to users from the outside, or is that not the case?

Dr. **Shill**. Not really. There is really a high degree of user satisfaction with the system. I spoke to several librarians in two privatized Federal libraries and Westinghouse Research & Development Library outside Pittsburgh before coming; they are using it very heavily. Westinghouse purchased $7200 worth of documents from NTIS in the first five months of the current calendar year, and the other two libraries are purchasing $5000 to $6000 worth annually. So I am not seeing it in my own environment or among people that I know. But this is just an anecdotal type of impression from a few circumstances, and some of the other witnesses might have some light to shed on that.

Mr. **Walgren**. I guess part and parcel of this is you folks are sort of saying it isn't broken, your experience with it is positive and relatively efficient. They are saying that the access to it has fallen off and that they see great room for improvement in how they do their job. Can you sense the room for improvement in that service?

Dr. **Shill**. The only area of improvement that I might suggest would be perhaps bringing in more foreign documents, since about 75 to 80 percent of the research done today is done outside the United States. But apart from that, I don't get any feedback whatever from our users—and we do interact very actively with them—that they are dissatisfied. We have a vocal user group, and they are not reluctant to express dissatisfaction, but I think I have never heard any dissatisfaction about NTIS in the seven years that I have been in my present position.

Mr. **Walgren**. Dr. Trivelpiece?

Dr. **Trivelpiece**. I can't comment on the technical aspects of the degree to which the use has either been maintained or is falling, but with regard to the other, it's more a matter of principle than a matter of particular. The users may well be satisfied; that does not necessarily mean that the internal utilization of tools and methods and so on for information dissemination are the best that are currently available.

As you may recall, I was recently in the Government and one of the things that troubled me about that—which I probably can speak more freely on now than I could then—is the degree to which at times there is almost a contempt for the value of government employees' time, and that there is sort of the mentality that persists in suggesting that the quill pen mode of operation is the one that is the most effective because it results in the least cost. Well, I challenge whether or not it really does, in the long run, result in the least cost because it doesn't lead to a high degree of morale and so on.

And so here is a case where this organization I know is not using the most modern technology associated with the kinds of things that could be done, and I believe that the first major improvement to do is to make that internal improvement and give them an ability to get access to that kind of technology, and then stop and take a look and see whether or not that has improved. And in fact, I believe it would result in reduced costs of operation because these things are people intensive and the more people you use, that's probably the higher cost element of this. It would take some financial analysis to reveal that in detail. But I would be rather surprised if it didn't turn out that the net cost to Government and the improvement in efficiency and the improvement in morale would all occur by going at this in a way which would permit that kind of apparatus to be acquired and utilized.

Mr. **Walgren**. Mr. Shattuck?

Mr. **Shattuck**. Mr. Chairman, the two associations that I represent, the Association of American Universities and the Association of Research Libraries, involve a great deal of research that is conducted through library facilities that are on our research university campuses. And with respect to our library facilities on university campuses, we are satisfied, to be sure, with the amount of material that we get from NTIS, but we would certainly be pleased if, as

Mr. Shill was indicating, there was more availability of foreign material.

But I would say that universities, of course, only comprise about 7 percent of the total user activities with respect to NTIS, and in the case of my associations with major research libraries, we get everything that they put out; we have a standing order for all the material, just about—I don't want to say virtually everything but a great deal of what NTIS produces. We don't, of course, request multiple copies. I mean, we are a relatively small number of institutions.

So the amount of information that flows through the research libraries from the NTIS to researchers who are conducting science research on our campuses is very high, but that doesn't necessarily mean that the volume of material that is turned over by NTIS to the people in these research universities is necessarily going to be that high.

I would say that the great fear of the researchers that I represent is the restriction of availability of material that now they are getting through NTIS, and that fear, I think, is enhanced by the prospect that the Service might be privatized and the cost of obtaining the material driven up, and indeed the attractiveness of publishing the material, from the perspective of the private entity that became the contractor, would be less.

So that is our main concern. I mean, we are indeed satisfied users but greatly concerned that the direction that the Service might go if the current Administration proposal were to be implemented would restrict the amount of information that is now available through research libraries to users.

Mr. WALGREN. Professor Weingartner?

Dr. WEINGARTNER. I would just like to add a few points, some of which I made in my full comments that are in the record. First of all, the question of is the decrease in the number of sold documents a sign that there is something wrong, is a question in itself since, as was pointed out, with better indexing the access to pinpointing to the item that is needed will allow not only the purchase of fewer documents but will waste a lot less time of the researcher filing through a lot of things that he didn't want in the first place. That's one of the reasons why we stress the great importance of the subject of indexing and abstracting.

On that subject, let me add that I understand on occasion there are delays in getting documents into the NTIS index because of the indexing process. That is, even after a document report is written, it will take some months to get into the index because it passes through the process either within NTIS or the outside contracting firm of doing that indexing, and speeding that up would be helpful.

I understand that in many instances researchers concerned with a specific subject necessarily must keep in contact with all the other researchers working in that area because by the time they get it through NTIS it is just too late. I don't know if there is a solution for that problem in all cases, but certainly, the ability to speed up that process and focusing on that aspect—namely, indexing—is extremely important. And as I mentioned in my remarks, there is no reason why that has to be done exclusively in-house, since it takes experts to be able to do the indexing and to be able to do that abstracting, and there are exciting developments that are taking place in doing that indexing; not only by titles of abstracts but key words and so on, various logical computer-based processing that would help. And for that matter, the whole research community has to learn the importance that they play when they write the reports in order to make it easier for the later retrieval of research reports. Often, the researchers are at fault in not participating adequately in that process and in valuing it.

There are other issues that get to be fairly technical about the availability of the NTIS index and in what form it should be for depository libraries, as well as others. There are a number of competing electronic media, each of which has desirable characteristics as well as negative ones, the negative ones being primarily that the best ones are the most costly on the one hand to obtain, and second of all, to use.

For example, if you have the index on magnetic tape, it takes a larger computer to be able to use that. If you put it down—now on CD's, which is done with some other data bases, that means you have to have individual work stations and essentially only one user can use it at a time. There are a whole series of issues, which is the—one of the reasons why there are some technical problems that really need to be gone into before merely spending more money is going to prove effective in accomplishing these tasks of getting the users to the documents that they want.

Mr. WALGREN. Mr. Brown?

Mr. BROWN. May I say first that all of you gentlemen have presented very carefully thought out and lucid comments with regard to the general problems of scientific and technical information production and dissemination. I think our fundamental purpose here is recognizing the importance of this problem and bringing about some coherence to the policies that we use to manage this resource, and I think you have made a great contribution to helping there.

A number of the witnesses, beginning with our first witness, Mr. Day, commented on the decline and lack of policy leadership within the Federal Government with regard to the management of this resource. Is this a feeling that all of you share, that we do have a going incoherence with regard to the management of this resource? Are there any of you who feel that the opposite is true?

Mr. SHATTUCK. I think, Mr. Brown, in some respect the opposite is true, but perhaps not within the purview of this Committee's inquiry.

One of the developments in recent years has been the centralization of authority, within the Office of Management and Budget, of the management of information systems, not necessarily science and technology but all information systems. As a result of that centralization process and a number of OMB directives that have gone out, we find in a variety of agencies there is simply less information being maintained and disseminated for a variety of different reasons, some of them having to do with the deficit reduction efforts that are underway and preoccupying the Congress, of course; others of which may have to do with determinations simply not to keep and maintain certain information.

So I don't mean to dilate on that problem before your Subcommittee, which I know is focused on science and technology, but I would simply point out that there has been a concerted effort in recent years, focused within OMB in particular, to restrict the availability and the maintenance indeed of Federal information systems.

Mr. **Brown**. But at the same time, the OMB does have a responsibility under the legislation that we are referring to here[27] to bring about a better organization; that is, the Act requires that there be designated officials in each department with policy responsibilities and that there be indexes maintained so that the public would have better access.

The focus of this, however, does not deal specifically with scientific and technical information but more with information collected by the Government from business and the citizens of this country. Am I correct in this?

Dr. **Weingartner**. I would agree with you totally, that I get a sense that it is a conscious policy of the Administration to forestall any possibility of a national effort at planning of that kind, which, while one can sympathize with that in the broadest sense, nevertheless inhibits a lot of sensible activities that are necessary by the private sector to carry out its functions. And I can see that in many numerous ways, of which this is one, there are others that I could name, but this I believe is one. This is just not a priority; if anything, it is a priority to keep down the level as if Big Brother was more to be feared than making use of very important resources.

Mr. **Brown**. Well, the title of the act is the Paperwork Reduction Act, you know. So I presume that the OMB feels they are carrying out the purpose of the Act in suppressing the amount of such data collected and the amount of paperwork resulting therefrom, which in some degree is contrary to what we're trying to do with scientific and technical information. We're trying to provide for the more adequate collection and dissemination of this kind of information. I'm just trying to differentiate between the two categories.

Dr. Weingartner, you made some comments about not bringing together the statistical information under the same umbrella as scientific and technical information. Could you elaborate on that a little bit? Are the systems for the collection and dissemination of statistical information adequately managed today so that we do have appropriate collection and adequate dissemination?

Dr. **Weingartner**. Let me assert that I cannot speak to the question of how well they are managed; I think I can demonstrate to you that the total effort, total appropriations for those activities has not nearly kept pace with the growth of the economy. I've done a little analysis of this as background for my appearance here, and looking at—basing my analysis on data prepared for the Congress on the subject of outlays on statistical activities of the Government, and using data from Fiscal 1980 through 1986, making a comparison with the Gross National Product on a fiscal year basis.

We saw that the allocation, the appropriations, dropped by one-third between 1980 and 1986. Let me be clear what I mean by that. The ratio of the outlays for statistics gathering to the Gross National Product, both in inflation-adjusted terms, dropped by one-third in 1980 to 1986. At the same time, our ability to use such information has increased tremendously because of the widespread use of computers and microcomputers and so on. So we are, in a sense, being starved of the data, the basic input, and I must say that applies as much to the Weather Bureau as it does to a lot of other areas. That is one of the answers to your question.

---

[27] The Paperwork Reduction Act of 1980, (44 U.S.C. 2904, 2905, 3501 *et. seq.*)

Mr. **Brown**. Well, I was a little surprised at your comment because some analysts that I have read over the years, going back quite a few years as a matter of fact, have pointed to the importance of this so-called statistical data as really providing the ammunition on which sound national policies must be based. That if you want to make sound decisions with regard to health or trade or you name it, you have to have an adequate collection of statistical data and this, in effect, becomes almost a form of—it is a form of scientific data with regard to the management of the society.

Dr. **Weingartner**. If I appear to disagree with you, let me make it clear. I agree 100 percent with you that gathering statistics and making them available is essential, and that includes economic data and data about all of society, and not only for national policy but also for the decisionmaking by the entire private sector, profit making and nonprofit making. We need data to make intelligent decisions.

Mr. **Brown**. And at the minimum, the social science disciplines require this kind of information in order to promote social science research, I would think.

Dr. **Weingartner**. Absolutely. My concern that I expressed in the statement was twofold; one was somewhat technical and that is by bringing the dissemination of this information into a central agency and removing it from those who gather it, there could be problems.

The other one is that if you're not careful, even less money might be appropriated to the statistics gathering because it would be siphoned off to this new agency.

Mr. **Brown**. Well, I want to have a system which accomplishes its goals, its aims, in the most efficient possible way, and if we can do it on a decentralized basis or with a minimum amount of extra layers of intervention, certainly that is to be preferred.

On the other hand, sometimes it's necessary to have the central coordination in order merely to achieve the overriding national purpose that is to be achieved here.

Let me ask a question or two just because it intrigued me at the time. Dr. Shill, you have mentioned that you had some experience in investigating the Japanese translation problem and found what was to me a surprising number of agencies doing this, but with no coordination. How can we resolve this kind of a situation absent the development of some form of central policy coordination?

Mr. **Shill**. I don't think there is a way short of some form of central policy coordination, sir. When I testified before this Subcommittee back in 1986, I did recommend that some sort of coordination be developed, some mechanism, whereby all translation activities being undertaken by one agency would be known by the others, and that there would also be some sort of an index of translations being undertaken, a sort of research-in-progress type of database developed, as well as an annual summary of translations which had been done to be disseminated.

I think there does have to be some sort of directive; otherwise we go back to the type of voluntary cooperation that Mr. Day was talking about earlier with CENDI [28] there which is very commendable. But from the research I did in preparing to testify in 1986 it was apparent that many of these agencies really didn't even know that the others were doing much in the area. And if they didn't know it, obviously there is no systematic means of access to these translations.

Mr. **Brown**. Yes?

Dr. **Trivelpiece**. One of the problems has to do with the time at which you need the information. You probably could not prevent scientists from communicating with one another on a hot scientific subject regardless of what policy you try to implement. That is simply beyond the pale of government to stop that.

But on the other hand, there are areas where clearly some policy helps because the statistical data—that depends on whether or not you create it and collect it and disseminate it and so on. So it's hard to define a simple policy that covers all of these situations.

And the translational area is an area where I think it's the same problem; there undoubtedly are situations in which getting it translated in the matter of a day or two days or 10 days is of critical importance to some researcher, and he will do what he can—get on the phone, call people, find out if it has been translated, and after some period of time have it translated himself. Now, if it were possible to have that information available instantaneously it would be highly desirable, but I doubt that you could really invent a system that would handle that class of the problems.

Then the other side of it is the routine translation of larger journals and thousands of reports and so on. For that end of it, then perhaps some policy is needed. But it's this difficulty of trying to define a single policy statement that encompasses not only the statistics but the short-term and the hot fields of science as well.

Mr. **Brown**. One of the problems, going on to a slightly different subject, with regard to NTIS seems to be the decreasing number of research documents that are flowing to NTIS, and I think the figure—was it is somewhere less than half now, but the number seems to be dropping. Is it necessary to—would it be necessary and is it desirable that we seek to alleviate this with some mandate that would require the agencies producing the research material to make them available through NTIS?

Dr. **Shill**. Does that not exist at present, sir? Isn't that a requirement of a Federal grant?

Mr. **Brown**. Well, it may be but I can't reconcile that with the decreasing percentage of research documents that are coming to NTIS. There must be——

Dr. **Trivelpiece**. Wasn't the basis of the assertion that there is a reduction—are fewer reports being written or are the reports being written and they aren't being transmitted by the agencies, are the agencies not collecting reports that are due them as a result of research being supported?

---

[28] The Commerce, Energy, NASA, and Defense Information Committee.

Mr. **Brown**. Well, apparently the agencies are not providing the material to NTIS and there is apparently not a mandate that they do so. I don't know whether they are doing so on a strictly voluntary basis or not, but apparently they are not doing so. There was testimony, for example, that the number of such reports coming from the Defense Department to NTIS is decreasing.

Dr. **Trivelpiece**. Does this reflect some quality issue that perhaps they aren't burdening NTIS——

Mr. **Brown**. Well, I raised the question of whether it might reflect the sense in this Administration that there should be less dissemination of some of this material under the doctrine of sensitive but unclassified, which bothered me somewhat as an infringement upon this whole issue of freedom of information.

Dr. **Trivelpiece**. You can think of it in two sides, though. One, it might be a friendly act which is to reduce the burden of unnecessary data being sent on to NTIS and the subsequent cost to the taxpayers associated with that, or it could be something more malevolent as you are indicating.

Mr. **Brown**. Dr. Trivelpiece, we have already established that there is no cost to the taxpayers for NTIS dissemination. There may be in sending it to NTIS, possibly that is what you're referring to.

Mr. **Trivelpiece**. No, I mean if suddenly a lot of agencies were to send information that was not to be further disseminated, that just the workload of cataloging and organizing it would obviously be involved in the overhead of NTIS. Small amounts obviously would not produce a differential problem.

Mr. **Brown**. Well, I won't belabor that question.

Mr. **Shattuck**. Mr. Chairman, if I could just offer two sentences in response to the question. Your observation is consistent with the testimony that I was offering regarding the effort to extend the security system in formal and informal ways. And I have no sense of the volume and therefore, I would—and Dr. Trivelpiece has also—questioned whether or not this is a matter that involves a high volume. But whatever the volume, it is certainly disturbing to see that technical research doesn't get wide circulation as a result of some efforts to categorize it under export control systems or other forms of security classification.

Mr. **Brown**. Let me just raise one question about the technology aspects of this and then I will not go further. Is it possible that we are or can move toward a system in which the kind of data which is supplied to NTIS or to other information disseminating centers in the Government—and there are many of them, apparently—is it possible that we are moving toward a situation in which the material can be submitted in machine-readable form, including both full text, index and abstracts, and that can then be recorded using optical laser disc technology and stored in some sort of an on-line data base, so that we might get to the point where this might reduce the distribution of copies, paper copies particularly, but in a more selective way it would be available on a broader basis both more quickly and efficiently, with the whole process being done on a machine basis to begin with? So that there would be no delays due to the indexing and abstracting process—or no extensive delays—and the information could be much more quickly available to the user community in that way?

Dr. **Trivelpiece**. I hope you have just described the future.

Mr. **Brown**. If that is a reasonable future, can we identify the obstacles to moving toward that future?

Dr. **Shill**. It's a future which needs to be broken up into several component parts.

Mr. **Brown**. I might mention that I think there is in my bill a requirement that the data submitted be in machine readable form with abstracts and indexes to facilitate this process.

Dr. **Shill**. This is the way that many authors are submitting either articles to a journal or larger manuscripts to a publisher right now. The submission is not a problem; they're doing it mainly on flexible discs, although I believe that it could also be done electronically, communicating directly from computer to computer rather than sending a physical product through the mail. The technology is there right now to do that.

The second part of what you discussed, the indexing, you would really not want to delegate to individual authors because it's very important for retrieval from a database that you have consistent indexing, usually using a thesaurus and using the same people doing the indexing over and over again who will have experienced the whole set of documents—let's say in a subject area like thermonuclear physics.

And the third part, the storage, could certainly be done on-line, which is magnetic tape. The production of documents to distribute on compact discs is something which is a problem of economics. It is expensive at the moment to master the first disc, but after that the cost per disc goes down dramatically. And this is something that we are seeing with the vendors who are getting into that area; they are mainly going for the high demand data bases, the ERIC database; NTIS is one which I believe is going to appear on compact disc very soon. So that form of dissemination is certainly possible for high demand documents but perhaps the electronic storage and electronic transmittal with reprinting at the far end would be more desirable for the less high demand documents.

Mr. **Brown**. This seems to be another example of where the technology is outrunning the policy in great strides and where we need to——

Dr. **Weingartner**. May I just add that there is no doubt that this is in the future. I am less convinced that it is in the present in the following sense; the formats that we now have are not standardized, both for creating the information on disc and communicating it over telephone lines and the like. And I think the industry is heading towards standardization but it is far from there. I would not say that 1987 is going to be the year when this is going to be standardized.

Now perhaps the Congress can take the lead in sort of knocking heads together and saying, "damn it, come up with some sort of a standard, whatever it is." I don't know if the technology is ripe enough in a sense to do that wisely. And doing it too soon can be very costly.

Mr. **Brown**. Yes, we've seen some examples of that, I think.

Dr. **Weingartner**. On the other hand, there are obvious cost considerations. The different media have different costs to be borne by different people. If you have a depository library program, which is to make available to ordinary citizens all the information of government, then that presumably means at the minimum in print form so that anybody who can read can walk into the library and look at it. If you require that whoever gets the material have access to computer equipment of one kind or another, who pays for that?

These are some of the issues and the same thing applies when you break it down into the alternative, electronic media. So I think that moving this process along is extremely desirable; pushing it along too fast could be harmful if we don't know where we are.

Mr. **Brown**. That is precisely the reason why we need some responsible policy focus for trying to make these decisions in a prudent way and which we perceive a lack of at the present time.

Dr. Shill, you recommended the National Commission on Libraries and Information Science as a possible focus for policy development in this area, and while I have a great appreciation for the importance of the National Commission I have some difficulty in seeing how it could do a better job than the Office of Science and Technology Policy which is already mandated to do it and has done a lousy job. [Laughter.]

Maybe you can explain that to me.

Dr. **Shill**. Well, we would hope they would do a better job. What I was doing in responding to that part of the Committee's mandate was to take a look at other alternatives now existing within the Federal Government rather than new offices which might be created, and the National Commission on Libraries and Information Services has provided some guidelines for the development of library and information services; it does get substantial input from a wide array of different sectors of the society in making its recommendations.

But the other existing agencies—the FCC's [Federal Communications Commission] focus is on telecommunications, the NTIA [National Telecommunications and Information Administration] is on telecommunications and computers, OSTP has been inadequate, the Office of Management and Budget, as I think one of the Committee documents has stated, has a *de facto* policy which is one of depressing the distribution of documents rather than promoting. So that is one organization which I could recommend—which has been recommended for funding by the Administration for this year, too—which, hopefully, would have both the broad perspective and also the continuity because it is a Presidential commission which is appointed and is not subject to turnovers every two years or every four years. So we would hope there might be some continuity here. It is a hope, honestly.

Mr. **Brown**. I understand, and it is desirable that we examine all the possible alternatives here. But I would be extremely happy if the Administration would just follow some of the recommendations that the National Commission has made with regard to strengthening libraries, to say nothing of an overall information policy for the Federal Government.

Thank you very much, gentlemen, it's been very helpful.

Mr. **Walgren**. Thank you, Mr. Brown, and thank you on behalf of the Committee for being witnesses for us.

The next two witnesses—from the Information Industries Association, Kenneth Allen, who is a Vice President for Government Relations with the Information Industry Association; and from the American Chemical Society, Mr. James Seals, from the Chemical Abstracts Service.

Welcome, gentlemen, to the hearing. Your written remarks will be made part of the record with more, and we appreciate your patience and your being here to give us your comments and your perspectives on this area. Let's start with Mr. Allen.

STATEMENTS OF KENNETH B. ALLEN, SENIOR VICE PRESIDENT, GOVERNMENT RELATIONS, INFORMATION INDUSTRY ASSOCIATION, AND JAMES V. SEALS, JR., DIRECTOR OF MARKETING AND CORPORATE DEVELOPMENT, CHEMICAL ABSTRACTS SERVICE, AMERICAN CHEMICAL SOCIETY

Mr. **Allen**. Thank you, Mr. Chairman. It being late, I will try to keep my remarks fairly short. I would like to start by saying that the Information Industry Association is a trade association representing over 500 companies pursuing business opportunities associated with the creation, distribution, processing and use of information. On behalf of the Association and its member companies, I wish to thank the Subcommittee for the opportunity to participate in today's hearing.

Today we have been and are discussing the management of our nation's scientific and technical information. This is one of the most important areas of Federal information policy. If we as a nation are to maintain our position as a world leader, we must ensure that our society has efficient and effective access to the latest in scientific and technical information.

Today, as we have heard, such access is provided through a variety of mechanisms. The National Technical Information Service within the Department of Commerce has long served the nation as a major source for scientific and technical information developed with Federal funds.

Similarly, we have witnessed the emergence of a vigorous and healthy private sector information industry. Operating in a competitive environment, there are many innovative companies which offer scientific and technical information products and services specifically tailored to the needs of the user community. These complementary activities have provided the information products and services needed by our research and development community. We believe the current system has worked well.

At the same time, it is not sufficient to say that we are meeting today's needs; we must also be sure that we will be able to meet tomorrow's needs. An important issue in meeting that challenge and ensuring that we can meet tomorrow's needs is the role the Federal Government intends to play in the information marketplace. That role is personified through organizations such as the National Technical Information Service.

By serving as a single source for Federally-funded scientific and technical information, the NTIS has facilitated more efficient use of our nation's resources. Researchers and others desiring access to that information do not have to waste time and effort by going to individual agencies. As we well know, they can go directly to the NTIS.

Similarly, a number of private information companies provide value-added products and services based upon NTIS data. Through public-private cooperation, more users have better access to a wider variety of information products and services than would otherwise be possible.

While we will be the first to recognize the value of NTIS, we also have concerns that certain aspects of its current operation may, if not addressed, be counterproductive to the goal of providing better access to our nation's scientific and technical information.

For example, requiring users of NTIS to pay for the collection, storage and indexing of documents, as well as other functions assigned to the agency, unnecessarily drives up the cost of NTIS information and reduces its availability to the public. In addition, the agency is able to avoid the Congressional oversight provided by the authorization and appropriations process. This lack of Congressional oversight has permitted NTIS to embark upon activities which we believe are beyond the scope of the Congressional intent and improper for a Federal agency. We believe these activities are inappropriate and should be addressed by Congress.

The question therefore becomes, what to do next? Some have suggested that the Government abolish the NTIS and let the private sector pick up those activities. Although we firmly believe the Government should rely upon the private sector to provide such information products and services, we do not support that proposal. We do not support the Government's abandoning its responsibility for access to scientific and technical information. It would not be in the public interest.

Another alternative that has been put forward is the Administration proposal to privatize the NTIS. We do not support the proposal as it has been laid out. A major problem is that the Government is seeking to make this a no-cost contract. Instead of using appropriations, the contractor will be required to invest private capital to operate and improve the NTIS operation and recoup, if possible, that investment through the sale of information products at prices regulated by the Government.

Such an approach was recently tried by the Securities and Exchange Commission in attempting to implement its EDGAR [Electronic Data Gathering Analysis and Retrieval] system. In an October 1986 report,[29] the General Accounting Office concluded, "The user fees—as we see here—for information may not include costs incurred primarily to serve general public interests." We firmly believe it is clear that the function of collecting and managing Federally-funded scientific and technical information serves the general public interest and should be funded through appropriations. Attempting to fund this function through user fees is both bad public policy and inconsistent with existing law and statute.

---

[29] Information Management and Technology Division, General Accounting Office, "ADP Acquisitions: SEC Needs to Resolve Key Issues Before Proceeding With its EDGAR System," GAO/IMTEC-87-2, 9 October 1986.

There are other problems with the NTIS privatization proposal that may make it extremely unlikely to attract qualified bidders. One of them is that the Government is unwilling or unable to promise that the contractor will be able to continue to receive source information. As a result, the value of the NTIS collection will rapidly begin to diminish and less information will be available to the public.

Finally, the contractor will be unable to protect his investment through copyright or similar activities. We can only conclude that the approach that has been laid out is unlikely to attract bidders and most importantly, offers little hope of improving access to federally funded scientific and technical information.

A third alternative that has been put forward is to reconstitute the NTIS as a Government corporation. We believe such a corporation would be counterproductive to the interest of our Nation's scientific community. The most effective way to meet the information needs of our Nation's community is through a competitive marketplace which encourages the investment of private sector capital to develop products and services. Such investment will quickly be discouraged if these companies must compete in the marketplace against a non-profit Government corporation. To some extent, the presence of the current NTIS already discourages greater private sector investment in this arena. The Government corporation would only compound this problem.

We have heard today unsolicited testimony as to the value of the private sector in providing access to our Nation's scientific and technical information. We should be seeking to encourage greater investment by that part of our economy, not less, as would happen with a Government corporation. For that reason, we do not believe that this alternative is the solution.

Yet we agree with this Committee and, I think, most of the people in this room that it is essential that we continue the technological process that is critical to our Nation's economic strength. We believe that can be done through a partnership between the public and private sector. That partnership can materialize by returning NTIS to its original functions and establishing boundaries around its operation that will encourage private sector investment.

Our testimony puts forward such a proposal, and we will be delighted to provide additional information. Our testimony also includes some thoughts we have on managing the Government's overall information resources and some other concerns we think the Committee may wish to consider. In the interest of time, however, I will conclude my remarks.

[The prepared statement of Mr. Allen follows:]

Information Industry Association
555 New Jersey Avenue, N.W. Suite 800
Washington, D.C. 20001
202 639-8262
[illegible]

FOR RELEASE ON DELIVERY
Expected on Tuesday,
July 14, 1987

STATEMENT OF KENNETH B. ALLEN
SENIOR VICE PRESIDENT, GOVERNMENT RELATIONS
INFORMATION INDUSTRY ASSOCIATION
BEFORE THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY,
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY,
U.S. HOUSE OF REPRESENTATIVES

Mr. Chairman and Members of the Subcommittee:

I am Kenneth Allen, Senior Vice President for Government Relations of the Information Industry Association (IIA). The Information Industry Association is a trade association representing over 500 companies pursuing business opportunities associated with the creation, distribution and use of information. These companies are on the leading edge of the information age - providing information products and services to enhance our nation's economic, technological and political growth. On behalf of the Association and its member companies, I wish to thank the Subcommittee for the opportunity to participate in today's hearing.

The primary purpose of this hearing is to address Federal policies relating to the collection and dissemination of scientific and technical information. This is an increasingly important issue in our rapidly changing world and I commend the Subcommittee for addressing it. I am also pleased that the Subcommittee intends to address the proper role of the private sector in the collection and dissemination of such information. It is the position of the Information Industry Association that access to our nation's scientific and technical information can best be met through a partnership in which government and industry work together.

THE EMERGING INFORMATION AGE

Information has long enjoyed a unique role in American society. The ability of citizens to freely create and acquire information has contributed to our nation's economic, political and technological strength. Today, with the advent of innovative new technologies, information - and the ability to access it quickly, efficiently, and effectively - has become even more important. This point was well made in the 1982 report issued by this Subcommittee on The Information Science and Technology Act of 1981:

> "American society is now well advanced into the "Information Age." The United States is continuing a rapid transition from an economy based on industrial production to one based increasingly on information products and services. Information and the ability to access it quickly and reliably is becoming a vital source of political and economic power. The products of microelectronics technology now permeate virtually every aspect of commercial and industrial activity, and the importance of microelectronics is manifest not only in the dollar value of information products and services themselves, but also in the central role played by information technology in increasing productivity and promoting innovation in other sectors of industry and commerce."

The speed with which this new age is emerging can best be seen in the progress being made in squeezing ever more components on tiny integrated circuit chips - the single most important force in the evolution of information technology. Between 1972 and 1981, when this Subcommittee wrote the above report, the number of transistors and other components that could be packed on a single chip doubled each year (from 11,000 in 1972 to 600,000 in 1981). Six years later we can pack nearly a million components on a chip about one square centimeter in size, and packing density is still increasing by a factor of 100 per decade. At the current rate of progress, we will reach at least five million components per chip by 1990 and between 10 and 100 million by the year 2000.

Driven by these exciting new technologies, the information age offers a future of tremendous potential which promises to benefit all members of our society. At the same time, new challenges and issues are emerging from this information age. How we address these issues will be a major factor in our ability to realize the full potential of the information age.

Last year our Association released a major report entitled The Information Millenium: Alternative Futures. The purpose of this study was to assess the technological, social, economic and political impact of the information age on our society and, more importantly, identify some of the major emerging issues we must begin to address. By doing this report we seek to encourage a public discussion of these issues as a basis for making deliberate, informed decisions about policy alternatives. The end result will be an information society which operates for the good of all.

As our report states, the information policies adopted by the Congress and the Executive Branch will play a major role in shaping our future. In developing such policies it is worth noting that information issues have three characteristics that, while not unique to this area, are important to keep in mind.

First, information policy is not guided by a national overarching goal, like "energy independence," or by a coherent national plan, like that for interstate highways. Second, information policy issues contain large, inherent uncertainties about technology and market behavior. Such uncertainties can lead reasonable people to quite different judgments about the nature and seriousness of issues and the most effective ways to resolve them. Third, information policy choices are not usually between "good" and "evil," but between legitimate and competing values, goals and interests. As a result, these issues are not likely to be resolved completely in favor of any polar position. The challenge at any particular time is to strike an appropriate balance among the conflicting values and interests.

These basic characteristics have an important implication: the long term resolution of information policy issues must involve the participation of all stakeholders' points of view. Hearings such as this provide an excellent forum for obtaining that participation.

Today we are discussing the management of our nation's scientific and technical information. This is one of the most important areas of information policy. The information produced through scientific inquiry and research contributes to our understanding of the world around us, leads to the development of products and services that can improve our quality of life, provides the technological base of our economy - both domestically and internationally - and enhances our national defense. If we are to maintain our position as a world leader, we must ensure that our society has efficient and effective access to the latest in scientific and technical information.

Today, such access is provided through a variety of mechanisms. For example, the National Technical Information Service (NTIS) within the Department of Commerce has long been a major source for scientific and technical information developed with Federal funds. In addition, during the past two decades we have witnessed the emergence of a vigorous and healthy private sector information industry. Operating in a competitive environment, there are many innovative companies which offer scientific and technical information products and services specifically tailored to the needs of the user community. These complementary activities have provided the information products and services needed by our research and development community. We believe the current system has worked well.

At the same time, it is not sufficient to say that we are meeting today's needs. We must also be sure that we will be able to meet tomorrow's needs. In developing our nation's information policies to achieve this objective, we should recognize that a number of significant changes have occurred in the scientific and technical environment. First, there has been a virtual explosion in the amount of scientific and technical information available. Second, new technologies have emerged which make it easier to collect and use information. Third, and perhaps most importantly, the information needs of the scientific community have changed dramatically in that they have become increasingly complex and specialized. The challenge before us is to develop an information infrastructure responsive to these changes that will provide effective and efficient access to scientific and technical information by those in our society who need it.

An important issue in meeting this challenge is the role the Federal government decides to play in the information marketplace through organizations such as the National Technical Information Service.

THE ROLE OF THE NATIONAL TECHNICAL INFORMATION SERVICE

The Federal government has made a substantial investment in research and development and the creation of scientific and technical information. As citizens and taxpayers, we believe the government has a legitimate and appropriate interest in ensuring that citizens obtain full value from this investment. Since its establishment more than forty years ago, the National Technical Information Service has contributed to achieving this objective by serving as a clearinghouse for federally-funded scientific and technical information. This, in turn, has done much to foster our nation's technological advancement and innovation.

By serving as a single source for federally-funded scientific and technical information, NTIS has facilititated more efficient use of our nation's resources. Researchers and others desiring access to such information do not have to waste time and effort by going to individual agencies; they can go directly to NTIS. Similarly, a number of private information companies provide value-added products and services based upon NTIS data. Through public/private cooperation, more users have better access to a wider variety of information products and services than would otherwise be possible.

While we recognize the value of NTIS, we also have concerns that certain aspects of its current operation may, if not addressed, be counterproductive to the goal of providing better access to our nation's scientific and technical information. For example, as this Subcommittee is aware, the NTIS operates on a full-cost recovery basis. Requiring users of NTIS to pay for the collection, storage and indexing of documents - as well as certain other functions assigned to the agency - unnecessarily drives up the cost of NTIS documents and reduces the availability of such information. In addition, the agency is able to avoid the congressional oversight provided by the authorization and appropriations process. This lack of congressional oversight has permitted NTIS to embark upon activities which we believe are beyond the scope of congressional intent and improper for a Federal agency. A good example is the NTIS collection and sale of non-federally funded information. We also note that, contrary to current law, NTIS charges royalty-like fees for some of its products. We believe these activities are inappropriate and should be addressed by the Congress.

PRIVATIZATION OF THE NATIONAL TECHNICAL INFORMATION SERVICE

A moment ago I noted that one of the major issues in developing national information policies is the role to be played by the government in the information marketplace. The alternatives proposed for the NTIS demonstrate the different roles the government could assume.

Some have suggested that the government should abolish NTIS and let the private sector pick up those activities. Although we firmly believe that government should generally rely upon the private sector to provide information products and services, our Association does not support the government's total departure from the scientific and technical information arena. It would not be in the public interest. If the government were to abandon the functions performed by NTIS, the private sector could, and probably would, step into this vacuum. However, given the tremendous cost and effort required, the availability of federally-funded scientific and technical information would be seriously disrupted, at least in the short-term. Our nation cannot afford such a disruption, even if it is only temporary. More importantly, it is highly unlikely that any private company or companies, regardless of the amount of investment, could duplicate NTIS' ability to collect federal information.

Another alternative that has been put forward is the Administration proposal to privatize the NTIS by turning the current operation over to a contractor while maintaining some degree of policy oversight within the Federal government. We do not support this proposal as it has been put forward. A major problem is that the government is seeking to make this a no-cost contract. Instead of using appropriations, the contractor would be required to invest private capital to operate and improve the NTIS operation and recoup, if possible, that investment through the sale of information products at prices regulated by the government. Since the contractor will be unable to protect his investment through copyright or access to a guaranteed market, it is questionable as to whether any qualified bidders will be willing to step forward.

It should be noted that a similar approach was tried by the Securities and Exchange Commission (SEC) for its Edgar project. The SEC proposed to automate its information holdings without using appropriations by giving a single contractor the right to sell SEC information in exchange for investing private capital to build and operate the automated information system. In an October 1986 report ("SEC Needs to Resolve Key Issues Before Proceeding With Its EDGAR System") the General Accounting Office concluded that user fees for information may not include costs incurred primarily to serve general public interests. The SEC has subsequently requested appropriations for the Edgar system. We believe it is clear that the function of collecting and managing Federally-funded scientific and technical information serves the general public interest and should be funded through appropriations. Attempting to fund this function through user fees is both bad public policy and inconsistent with existing law and regulation. There are other lessons to be learned from the history of the Edgar system that may be applicable to the NTIS privatization proposal and we would urge the proper officials to carefully study the SEC's experience.

There are some additional problems with the NTIS privatization proposal that may make it difficult to attract qualified bidders. A winning contractor would receive a money losing operation, possibly be required to absorb as much as $8 million in unfunded customer accounts, and pay several million dollars annually to support a government policy staff who will, among other things, regulate the prices at which the contractor may sell information. In exchange, the government is unwilling - or unable - to promise the contractor that he will continue to receive source documents from other federal agencies. For a number of reasons, we believe that many government documents now made available to NTIS would not be made available to a contractor. As a result, the value of the NTIS collection will rapidly begin to diminish and less information will be available to the public. Finally, as I noted previously, the contractor will be unable to protect his investment through copyright. We can only conclude that this approach is highly unlikely to entice any private sector companies to risk their capital. More importantly, we believe that such an approach offers little hope of improving access to federally funded scientific and technical information.

RECONSTITUTING THE NATIONAL TECHNICAL INFORMATION SERVICE AS A CORPORATION

A third alternative that has been put forward is to reconstitute the National Technical Information Service as a wholly-owned government corporation (H.R. 2159). From the government's perspective, there would appear to be certain benefits from this approach. The National Technical Information Corporation would not require appropriations and would have the flexibility to independently acquire the capital necessary to make investments in new technologies and products. The Corporation would be free from the administrative controls imposed on other agencies - such as personnel rules, procurement regulations, the appropriations process, and Congressional oversight. Finally, the Corporation would have the authority to collect all scientific and technical information - not just that which is federally funded. To some persons, there may appear to be a benefit to having a single source for all scientific and technical information. Unfortunately, this is not the case. To the contrary, we believe such a corporation would be counterproductive to the interests of our nation's scientific community.

The most effective way to meet the information needs of our nation's scientific community is through a competitive marketplace which encourages the investment of private sector capital to develop products and services tailored to the needs of individual users. Such investment will quickly be discouraged if these companies must compete in the marketplace against a non-profit government corporation similar to that proposed by H.R. 2159. To some extent, the presence of the current NTIS already discourages greater private sector investment in this arena. A government corporation would only compound this problem. Moreover, there is a danger that, over time, this corporation could become the major source of scientific and technical information in our society. Our nation's scientific community would be denied the diversity of new products that are available through a competitive marketplace. Similarly, such a corporation establishes an unfortunate precedent for other government information activities. Finally, we must ask whether a democracy is willing to risk becoming heavily dependent upon the Federal government for access to scientific and technical information. We think not. For these reasons we do not believe a government corporation is the solution.

IMPROVING THE EXISTING NATIONAL TECHNICAL INFORMATION SERVICE

It is essential that we continue the technological progress that is critical to our country's economic strength. To do that, we must ensure that the research community has effective and efficient access to scientific and technical information. The rapidly growing volume of such information and the increasingly complex needs of researchers require a new and innovative approach to meeting the information needs of America's research and development community if we are to ensure that our nation receives full value from its investment in research and development activities.

This can be accomplished through a partnership between government and the private sector which capitalizes upon the strengths of each. This partnership can materialize by returning NTIS to its original function and establishing boundaries around its operation that will encourage private sector investment in the development and dissemination of value-added products and services. Specifically, we recommend that the government continue to collect and organize federally-funded scientific and technical information and that the private sector be responsible for developing value-added products and services that will enhance the usefulness of this information. This would be accomplished as follows:

1. The NTIS would continue to collect and organize scientific, technical and engineering information that has been produced with Federal funds.

2. The collection and organization of this information by the government would be financed through appropriations and NTIS would be subject to congressional oversight.

3. Any member of the public would be able to obtain copies of individual reports directly from NTIS for the incremental cost of reproduction.

4. In the absence of statutory authorization, and consistent with Section 105 of Title 17, U.S. Code and its legislative history (Government Information in the Public Domain), and with existing regulations on rights in data in government contracting, NTIS would not assert rights in its information which would be inconsistent with these precepts.

5. NTIS activities would be conducted in accordance with the provisions of OMB Circular No. A-130, "Management of Federal Information Resouces," regarding maximum feasible reliance upon the private sector. NTIS would be prohibited from expanding its collection, taking on new functions, or developing additional or value-added products and services without explicit Congressional authorization.

This approach has a number of significant benefits. It retains a single repository for Federally-funded information. It would reduce the public's costs of obtaining individual documents, thereby increasing the distribution of such information throughout our society. It would restore Congressional oversight over this critical function. It would also provide greater incentives for the private sector to invest its own capital to develop additional new products and services responsive to the specific needs of the scientific community. Most importantly, this approach would provide an information infrastructure to meet our nation's rapidly changing needs for efficient and effective access to scientific and technical information.

In accordance with the provisions of OMB Circular No. A-76, the functions retained by the government could be performed by a private company under contract to the government. The sponsoring agency should pay for this contract through appropriations and ensure that the contractor makes the basic products available to all members of the public on a timely basis at the incremental cost of reproduction. The contractor would, of course, be permitted to develop and market value-added products and services beyond the scope of the contract. However, the government should carefully avoid giving the contractor any advantage which would stifle competition and discourage a diversity of information sources and services.

The approach we have proposed will significantly enhance the value of the nation's investment in research and development. The public will have access to a greater diversity of information products and services, developed more efficiently and effectively in response to the specific needs of users. While we are proposing that appropriations should be used for this purpose, the investment - less than $20 million annually - is small when weighed against the potential benefits to society. Most importantly, adoption of this new direction establishes the framework for a constructive partnership between government and the private sector dedicated to providing citizens with the information products and services they need and want. For these reasons, we urge the Subcommittee to consider this proposal.

MANAGEMENT OF FEDERAL SCIENTIFIC AND TECHNICAL INFORMATION

The Subcommittee has also requested comments on the broader issue of managing the government's scientific and technical information resources. This is an extremely important issue and we are pleased to see the Subcommittee's interest in this area.

Information is becoming an increasingly important strategic and economic resource. All sectors of our society - government, industry, citizens - must be assured of the ability to acquire timely and accurate information if our nation is to continue its economic, technological and political growth. We can no longer afford to ignore the management of these critical resources.

We are not prepared today to offer the Subcommittee a specific set of recommendations for improving the management of Federal scientific and technical information. Instead, we would like to put forward some thoughts we believe the Congress should consider as it develops a strategy for managing these resources. As an industry that has long recognized the value of information and, in fact, makes its livelihood from the creation, distribution and use of information, we believe our experiences can assist this Subcommittee.

First, although information is a resource which can be managed as are other resources, it also inhabits a unique role in our society. Our democratic society is based upon the presumption of the free flow of information - citizens will be able to acquire, use and create information and ideas without fear of government control. We have spent over 200 years establishing a series of checks and balances to ensure that government does not inappropriately intrude upon this right. Any government intervention in the information arena, no matter how well intentioned, will affect this balance. For that reason, we urge that all proposals for government action receive close and careful scrutiny. It is too easy to move precipitously down a path from which it will be difficult if not impossible to retreat.

The second point is that the issues involved in managing scientific and technical information are generally not unique - these same issues can be found in the management of other information resources. Moreover, we are generally not treading new ground in finding solutions to these issues. As we pointed out earlier, there are lessons to be learned from the SEC's Edgar project that have a direct application to NTIS. Similarly, many other organizations have been, and are, addressing the same issues this Subcommittee will be considering. In developing a strategy for managing scientific and technical information we urge this Subcommittee to draw on the knowledge that has been gained elsewhere.

Recognizing that all information resources share certain common characteristics and raise similar management concerns, we recommend that the policy and oversight responsibility for managing these resources not be divided among several organizations. It would be counterproductive to the public interest to set up different organizations with duplicative responsibility for overseeing various subsets of the government's information resources. Fortunately, the Congress has already established a single organization with government-wide information policy responsibility. The Paperwork Reduction Act of 1980 (Public Law 96-511) established an Office of Information and Regulatory Affairs within the Office of Management and Budget to develop policies and regulations for managing the Executive Branch's information resources. The responsibility of this office does, and should, encompass scientific and technical information.

To the extent that there are unique issues in the management of scientific and technical information, we would suggest that OMB draw upon the expertise resident in the scientific community. For example, the Office of Science and Technology Policy or the National Science Foundation could advise OMB on the development and promulgation of policies affecting scientific and technical information. This advice, especially when complemented by Congressional direction, will ensure that such policies and regulations are in the public interest.

We are not prepared today to say what those policies and regulations should be. The issues are far too complex for simple or quick solutions. Similarly, we are not ready to take a position on the proposal in H.R. 1615 to establish a Government Information Agency. While there may be certain administrative efficiencies from such an agency, there are also a number of policy concerns which should be addressed. In particular, we would not support such an agency if it increases government intervention in the information marketplace to the extent that it inhibits the competitive spirit which now dominates that marketplace. While it may be possible to establish safeguards which would prevent such an intrusion from occurring, the development of such safeguards promises to be a lengthy process beyond the scope of today's hearing.

RESTRICTIONS ON FOREIGN OWNERSHIP

Managing the nation's information resources raises a complex set of issues which require careful thought and analysis. Before concluding my remarks, I would like to draw the Subcommittee's attention to one such issue which has recently emerged in the proposal for privatizing NTIS. Specifically, I am referring to that part of the NTIS privatization proposal which states that no bids will be accepted from a company that is directly or indirectly controlled by a foreign entity.

Why the Department of Commerce has proposed such a restriction is unexplained. We have reviewed the statutory authority (41 U.S.C. Section 253(c)(7)) cited by the Department and find that it is only a general provision permitting the inclusion of contractual requirements determined to be in the public interest. We fail to understand what public purpose is served by such a restriction.

Clearly, this restriction cannot be intended to protect our national security interests. There is no classified information in the NTIS database and any person, U.S. citizen or foreigner, can legally buy that information. We note that no restrictions are being proposed to prohibit the sale of NTIS information to foreigners. Moreover, were there a national security interest to be protected, it can be achieved through contractual arrangements. The Department of Defense procures almost $9 billion annually in goods and services from foreign-owned or -controlled firms. Where such procurements involve classified information, DOD can and does write necessary safeguards into its procurement instruments. Thus, the government can get the best buy while protecting the national security. Existing procurment regulations provide sufficient authority to protect national security interests through the contract instrument without limiting the universe of potential bidders.

It is clearly in the public interest to ask what the impact of such a restriction would be. At a minimum, it will deny many U.S. citizens an opportunity for jobs merely because their corporate hierarchy includes foreign interests. Another serious concern is that other nations may impose similar restrictions on the ability of U.S. companies to do business within their borders. The information industry is one of the few areas where the U.S. has a positive balance of trade. Many of the leading companies in the international marketplace are American companies. To ensure our nation's continuing economic growth, we must look towards the international marketplace which is becoming increasingly services oriented - including information services. Placing restrictions on the ability of foreign companies to operate domestically, without regard to how U.S. companies are treated overseas, may deny us this future growth.

Ironically, this restriction may also inhibit our nation's ability to acquire scientific and technical information. As this Subcommittee knows, the United States is not the only source of such information. A good example is the research now underway into superconductivity. The intial breakthrough was reported by a research laboratory in Switzerland. Our research and development community needs access to foreign literature just as much as that produced domestically. Will our allies continue to provide access to such information if their companies are not permitted to bid on a contract such as this? We suspect not. Unless a significant public interest can be demonstrated, we urge the Congress to reject the broad-based, undifferentiated restriction contained in the NTIS privatization proposal.

Mr. Chairman, in the time available we have only been able to touch briefly on some of the major issues of interest to this Subcommittee. However, we share the Subcommittee's concerns and look forward to assisting in any manner possible.

Thank you.

Mr. **Brown** [presiding]. We appreciate your statement, Mr. Allen, and Dr. Seals, would you proceed?

Mr. **Seals**. Thank you, Congressman Brown. My name is James V. Seals, Jr.; I am Director of Marketing and Corporate Development for Chemical Abstracts Service, a division of the American Chemical Society. I am here today to present the ACS statement on H.R. 1615, the Government Information Act of 1987.

The American Chemical Society is the largest scientific and educational membership organization in the world. The ACS was established in 1876 and has a membership of over 137,000 chemists and chemical engineers. The Society has extensive experience in acquiring, processing and disseminating scientific and technical information in the chemical sciences.

Chemical Abstracts Service was established in 1907 and is recognized worldwide for its unique contributions in facilitating the flow of scientific information.

The ACS wishes to comment primarily on those provisions of H.R. 1615 that define the role and mission of the Government Information Agency. We believe that the definitions of the agency's role and mission possibly could permit the agency to duplicate and compete with activities that are already well established in the private sector. In our comments we wish to inform the Congress of certain information activities already in progress so that the agency, if it is established, can take advantage of these activities and possibly build upon them.

The American Chemical Society believes that the effective collection and dissemination of domestic and foreign scientific and technical information is essential for the U.S. to maintain its competitiveness in the international markets. The Society also believes that the best approach to achieving effective information access is a strong, self-supporting information industry in the private sector.

In some instances in the past, new Federal information programs have been established without sufficient regard for services already provided by the private sector. The result of this has been that the non-profit, private information sector sometimes views the Government as a competitor rather than as a partner with whom we should seek to cooperate in the public interest.

In Section 104, paragraph (c) of H.R. 1615 states that "the agency shall collect to the maximum extent possible information on the results of foreign research, development and analysis." The ACS agrees that this objective is most worthwhile. However, we wish to note that a number of U.S. private sector organizations are already performing this function.

For example, Chemical Abstracts Service obtains publications from about 150 countries and prepares corresponding English language abstracts and indexes. Last year, CAS abstracted and indexed more than 350,000 foreign documents, including almost 95,000 Japanese and 60,000 Soviet documents. These abstracts and indexes are disseminated throughout the U.S., and internationally, in printed form. They are also entered into an electronic data base that is accessible on-line throughout the nation and the world.

Under arrangements with copyright owners, CAS also provides copies of the original documents on request. All of these activities are supported in full by subscribers to our services.

Additionally, the ACS has joined with FIZ-Karlsruhe [30] in West Germany and with JICST [Japan Information Center of Science and Technology] in Japan to cooperate in improving worldwide access to scientific and technical data bases. Together, we have established a network of linked, on-line information centers known as STN International. Through this network, American searchers can now access European databases located in Germany by telephone connection to the STN Center in Columbus, Ohio. As a result, several West German databases that previously had been virtually unknown and inaccessible to Americans are now easily accessible throughout the U.S. Very soon, the same will be true for Japanese scientific and technical databases mounted at a new STN center in Tokyo.

The West German and Japanese governments have provided strong political and financial support for STN International. The ACS hopes that the U.S. government also will recognize the importance of this project.

Through our cooperation with a variety of organizations, the information scope covered by STN is not limited to the chemical sciences but is intended to cover all of science and technology.

These activities illustrate what one organization in the private sector is doing to improve U.S. access to foreign research, and other organizations are involved in similar activities. In our opinion, several other provisions of H.R. 1615 could be misinterpreted and could result in competition with these private sector activities, or otherwise be detrimental to private sector organizations.

The term "government information," as defined in Section 101 of H.R. 1615, could be construed to permit the proposed agency to process and re-sell non-government information, provided only that it be in the possession or control of any Federal agency. This could include, for example, publications resulting from normal academic and industrial research that has been supported in part by government grants. Such material is part of the standard, open research literature and is already well covered by information services in the private sector.

Also, Section 104(a) of H.R. 1615 charges the agency with acquiring, processing and selling primarily the fruits of Federally-performed and Federally-sponsored research, development and analysis. Inclusion of the word "primarily" in this statement appears to imply that the agency could also acquire, process and sell non-Federal information without specifying what the nature of that information might be.

In summary, the ACS believes that the U.S. Government can best improve national access to foreign information by aiding and encouraging the efforts of private sector organizations and by obtaining and disseminating information not otherwise available through private sector sources. We do not believe that the intent of this legislation is to duplicate or compete with private sector activities, but we do believe that the ambiguity of certain language in H.R. 1615 could permit that to happen.

---

[30] Fachinformationszentrum Energie, Physik, Mathematik GmbH Karlsruhe (National Information Center for Energy, Physics and Mathematics).

The ACS hopes that if a Government Information Agency is established, it would serve as a focal point for coordinating the efforts of information organizations in the public and private sectors, to take maximum advantage of resources that already exist. The ACS has had long and excellent relationships with several U.S. Government scientific and technical information activities. The ACS would welcome the formation of an appropriately mandated Government Information Agency if such an agency would further strengthen cooperation between the Government and the private sector on such activities.

The American Chemical Society offers its assistance to the Subcommittee and would be pleased to provide detailed information on the efforts of Chemical Abstracts Service in providing access to scientific and technical advances in chemistry. We thank you very much for allowing the Society to express its views and I'd be glad to answer any questions.

[The prepared statement of Mr. Seals follows:]

STATEMENT

of the

American Chemical Society

STATEMENT

of

JAMES V. SEALS, JR.

on behalf of the

AMERICAN CHEMICAL SOCIETY

to the

SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

U.S. HOUSE OF REPRESENTATIVES

on

THE GOVERNMENT INFORMATION ACT OF 1987, H.R.1615

TUESDAY, JULY 14, 1987

American Chemical Society • 1155 Sixteenth St., N.W. • Washington, D.C. 20036 • (202) 872-4479

Mr. Chairman and Members of the Subcommittee:

I am James V. Seals, Jr., Director of Marketing and Corporate Development of the American Chemical Society's (ACS) Chemical Abstracts Service (CAS). I appear before you today to present the ACS statement on H.R.1615, the "Government Information Act of 1987." I request that the complete text of the ACS statement be entered into the hearing record.

The American Chemical Society, with a membership of over 137,000 chemists and chemical engineers, is the world's largest scientific and educational organization. The Society also is unequaled in facilitating the flow of scientific information in the United States through its Chemical Abstracts Service. Located in Columbus, Ohio, CAS publishes Chemical Abstracts in both printed and computer database form which, with its accompanying computerized registry of chemical substances, provides references to virtually all of the world's chemical knowledge. Based on this extensive experience and involvement in acquiring, processing, and disseminating scientific and technical information, the ACS wishes to comment on H.R.1615, the "Government Information Act of 1987."

This legislation's objective is to enhance the economic, scientific, and technological position of the United States by establishing a Government Information Agency, which would acquire, process, and distribute the results of federally performed and sponsored research, development, and analysis. Of major concern to the ACS are the provisions in H.R.1615 that define the Government Information Agency's role and mission in such broad terms as to create the possibility for duplication of and competition with activities already well established in the private sector.

Private Sector Information

In some instances in the past, new federal information programs have been established with little or no regard for existing activities being performed in the private sector. As a result, the non-profit scientific and technical information sector sometimes views the government as a competitor rather than as a partner with whom we should seek to cooperate in the public interest. The ACS, therefore, in commenting on this legislation, wishes to inform the Congress of the information activities that are already underway with which we are directly familiar so that the Government Information Agency, if established, can be constituted in such a way that it will take advantage of and build upon these activities rather than duplicate or compete with them.

Specifically, section 104, paragraph (c) of H.R.1615 states:

> To the maximum extent possible...the Agency shall also collect, maintain, and make available...information on the results of foreign research, development, and analysis, with the particular objective of ensuring that American enterprises and other entities will have available to them the information necessary to keep abreast of foreign competition.

The ACS agrees that this is a most worthwhile objective in the interest of maintaining U.S. competitiveness; however, a number of private sector organizations in the U.S. are already performing such a function.

For example, the American Chemical Society's Chemical Abstracts Service obtains publications--primarily scientific journal articles and patents--from about 150 countries and prepares English-language abstracts of and indexes to these publications. This activity is subscriber-supported. Last year, CAS abstracted and indexed more than 350,000 foreign documents, including almost 60,000 Soviet and 95,000 Japanese documents. These abstracts and indexes are disseminated internationally in printed form and entered in an online electronic database that is accessible worldwide. Also, CAS provides copies of the original documents on request. Foreign publications are obtained through exchange arrangements with foreign scientific societies and by direct purchase from publishers abroad. Copies of copyrighted materials are provided under arrangements with the copyright owners, and copying fees are paid to the owners.

Additionally, the American Chemical Society has joined with the National Information Center for Energy, Physics, and Mathematics of the Federal Republic of Germany and the Japan Information Center of Science and Technology in a cooperative effort to improve access to American, European, and Japanese scientific and technical databases through a network of linked computer centers. Through this network--STN International--searchers in North America, Japan, and Europe can access American databases mounted in Columbus, Ohio, and European databases mounted at Karlsruhe, West Germany, through telephone connections to service centers at Columbus, Tokyo, or Karlsruhe. Within the next year, Japanese databases, located in Tokyo, will become accessible to North American and European searchers through STN International. All computers in the Network use the same search software so that databases mounted at any of the locations can be searched by the same commands and procedures, and a user connected to one center can operate as though connected to all three simultaneously.

As a result, several databases that are produced in West Germany, which had been virtually unknown and inaccessible to American scientists in the past, are available in the U.S. today through STN computers located in West Germany. In the near future, the same will be true of Japanese-produced databases located on an STN computer in Japan. Thus, through strong international cooperation, STN provides American scientists important new means of access to foreign databases in addition to providing larger international markets for U.S. database producers.

STN International is an example of international cooperation and sharing of resources to improve the flow of scientific and technical information within and among nations and to eliminate costly duplication of facilities. The ACS believes that such international networking offers the best means for sharing the production and delivery of scientific and technical information services across national boundaries for the benefit of all. STN International has received strong political and financial support from the West German and Japanese governments. The Society hopes that other nations and other organizations will become part of the Network and that the U.S. government will recognize the importance of this project since it enhances U.S. access to foreign information. By cooperation with a variety of organizations, the information scope covered by STN is not limited to the chemical sciences, but is intended to cover all sciences and technologies.

The preceding examples illustrate what one private sector organization, the ACS, is doing to provide and improve U.S. access to the results of foreign research and development. Other organizations are involved in similar activities. The American Chemical Society sees no need for the federal government to duplicate what is already being done well by the private sector. However, the ACS believes that the U.S. government can be most instrumental in improving national access to foreign scientific and technical information by aiding and encouraging the ongoing efforts of scientific and engineering societies, and other private sector organizations, and by obtaining and disseminating information not otherwise available through private-sector sources.

The following comments on H.R.1615 focus on specific issues of concern to the Society. The interpretations and ambiguities of certain provisions could result in competition with, and work to the detriment of, private sector organizations.

Definition (Section 101)

The meaning of "government information", as defined in section 101 of the bill, does not appear to be clear or precise enough to avoid misinterpretation.

> Government information means all scientific, technical, business and economic information and data (in any form) *which is in the possession or control of any Federal agency* or is obtained by any Federal agency from a State or local government, a foreign entity, or any other public or private source, *and which pertains to or derives from federally performed* or *federally sponsored research, development, or analysis or* incorporates the results of such [our emphasis]....

If the phrase "and which pertains to or derives from federally performed or federally sponsored research, development or analysis...." is interpreted as limiting the type of information, then the proposed agency is restricted to the processing and sale of government-generated or government-contractor-generated information. However, the definition also could be interpreted to enable the proposed agency to process and resell non-government information, "which is in the *possession or control* of any Federal agency" [our emphasis].

Moreover, the proposed definition of "government information" is so broad that it could be interpreted to include publications of work in the open standard research literature, some of which results from academic and industrial research supported in part by government grants. This material is already well covered by the standard information services. An extreme interpretation of this definition could even include published work which refers to or is based upon published government information, even though no federal money goes into the follow-on work.

Mission and Funtions of the Agency (Section 104)

Section 104(a) of H.R.1615 charges the agency with "acquiring, processing, and selling primarily the fruits of federally performed and federally sponsored research, development and analysis" [our emphasis]. Inclusion of "primarily" in this statement appears to indicate the possibility that the agency could acquire, process, and sell non-federal information without specifying what the nature of that information might be.

Summary

The American Chemical Society believes that the effective collection and dissemination of scientific and technical information--both domestic and foreign--is essential to maintain U.S. international competitiveness. However, the Society also strongly believes that the best approach to achieving this goal is a strong self-supporting private sector information industry. The federal government should foster and build upon the expertise of those private sector organizations, non-profit and for-profit, that already have a solid foundation in and commitment to information systems and international information transfer. The government should concentrate on ensuring that its own government-centered activities fit smoothly into and complement the private initiatives. It is not in the nation's best interest to replace established private sector systems and bilateral agreements with a government agency. While the ACS does not believe that it is the intent of this legislation to establish a government entity that would duplicate or compete with private sector activities, the ambiguity of certain language contained in H.R.1615 might permit that to happen.

The American Chemical Society hopes that if a Government Information Agency is established, it would serve as a focal point for coordinating the efforts of government and private sector information organizations to take maximum advantage of those resources that already exist. The Society has had a long and excellent relationship with several U.S. government scientific and technical information activities--both directly and through membership in the National Federation of Abstracting and Information Services. The American Chemical Society would welcome the formation of an appropriately mandated Government Information Agency if it would further strengthen the cooperation between the U.S. government and private sector scientific and technical information activities.

In conclusion, the American Chemical Society offers its assistance to the Subcommittee and would be pleased to provide detailed information on its Chemical Abstracts Service's efforts to acquire, process, and disseminate scientific and technical advances in chemistry.

American Chemical Society
July 14, 1987

Mr. **Brown**. We thank you very much, Dr. Seals. The Subcommittee is well aware of the excellent work done by the American Chemical Society and the Chemical Abstracts and the forward-looking activities that you described in your statement. I would wish that the information activities of the Federal Government were as well done, but we sense a slight lack in that regard and we would hope to be able to improve on it.

Now, both of you gentlemen have stressed the importance of a public-private cooperation in trying to solve this problem, and I can assure you that that is the buzzword in Congress, too; we want public-private cooperation. But in order to have that you have to have some coherent public policy-making role which we do not perceive is existing or is existing as adequately as it should at the present time. And I'm not sure that we're going to be able to solve that problem in the near term.

There are none of us on this Committee that are seeking to force a government role here in the information field beyond that which will improve the overall production and dissemination of information. We recognize the vital, significant value of the resource and we want to see it better used.

I am intrigued, Dr. Seals, with your description of what is going on internationally with regard to improving the dissemination of scientific and technical information. I am informed that we will be looking at that in a little more detail in connection with some other hearings of the Subcommittee.

You mentioned on page 2 of your statement that STN International has received strong political and financial support from the West German and Japanese governments. Has that same support been forthcoming from the United States government?

Mr. **Seals**. No, sir, it has not.

Mr. **Brown**. Would it be desirable to have it forthcoming?

Mr. **Seals**. It would be very desirable, yes, sir.

Mr. **Brown**. Do you have any suggestions as to how we could encourage the Federal Government to recognize the importance of providing that kind of support and cooperation?

Mr. **Seals**. Well, Congressman Brown, I think you have done a lot already and I think the activities of this Committee have done a lot to call attention to the problem. I think the introduction of your bill, H.R. 1615, has called more attention to it. And even though there is a lot of skepticism in the public and, I would have to infer, also in Congress about the effectiveness of implementation of some of the policies, we think it is the role of the Congress to set the policies. And we would hope that if the Government Information Agency is established that it would carry out what you have instructed and offer some focus.

Mr. **Brown**. Well, we have been introducing legislation for quite a few years aimed at providing a better focus for Federal Government information policy and we haven't been overwhelmed by the chances of success of that up to the present time. I don't know whether that's going to improve or not.

Dr. Seals, to what degree is the work of the American Chemical Society and the Chemical Abstract Service meeting the total universe of needs in the field of scientific and technical information? And I ask this question just so I can see the scope of the unmet needs as much as anything. What areas are beyond the scope of your concerns?

Mr. **Seals**. Well, we focus naturally on the area of chemistry, chemical engineering——

Mr. **Brown**. But you mentioned that you are expanding into other areas of science.

Mr. **Seals**. Yes but we're doing this primarily through cooperation with other organizations. For example, on STN International it is interesting to note that the databases of the National Technical Information Service and of the Department of Energy are also available, a number of European databases—in fact I think at the moment we have more European databases offered through the system than we do American databases—and soon we will have Japanese databases. So we are concentrating on the area of science that we know best—namely, chemistry—and we are relying on experts in other fields to cover the sister disciplines.

Mr. **Brown**. Well, to what degree has that reliance been—has it met your expectations? Are the other sister disciplines, including both hard sciences and the soft sciences, organized in the same exemplary fashion that the chemical sciences are?

Mr. **Seals**. I think the field of bibliographic information, including not just strictly bibliographic information but the indexing and the abstracting, is covered very well in all fields of science and engineering. We feel that we cover chemistry well. Our friends at BIOSIS[31] cover the biological literature very well. The medical literature is covered well by the National Library of Medicine and by Elsevier.[32] The engineering information is covered by several organizations including our partners at FIZ-Karlsruhe.

So, in general, the abstracting and indexing that is being done covers the fields of science very well. Where we are weak, I believe, is that numerical data that are needed more and more by scientists and engineers are not so readily available in all areas of science and are not so readily accessible. And I would comment just in passing that the U.S. Government, I believe, is one of the largest producers of numerical data in the area of science and technology in the world.

Mr. **Brown**. All right. Let me return to Mr. Allen for a moment. I gather that you are not enthusiastic about this legislation which would form a Government corporation out of NTIS.

Mr. **Allen**. That is probably a fair statement.

Mr. **Brown**. You sound just like Ollie North. [Laughter.]

But you do feel that the NTIS needs to continue to operate and be improved in its operations in several ways that you have listed here in your testimony.

Mr. **Allen**. That is correct.

Mr. **Brown**. Do you have an answer to the problem of how we can solve the needs of NTIS in terms of continued upgrading of its capability to use state-of-the-art technology for reducing the cost of its operations?

---

[31] BioSciences Information Services is a database, located in Philadelphia, Pennsylvania, specializing in the research literature of the life sciences. It is abstracted by the Chemical Abstracts Service.

[32] Elsevier is a multinational publishing and information company headquartered in Amsterdam, The Netherlands.

Mr. ALLEN. I think there are two responses. As you will note in our proposal, we suggest that the Congress and the Executive Branch shoulder the burden of this and pay for this operation through appropriations.

Mr. BROWN. In other words, you would support an added appropriation to cover the cost of modernizing facilities.

Mr. ALLEN. We would support an appropriation to cover the entire cost of the collection and indexing of that information that is benefiting the public at large.

In terms of the developing technologies that you have discussed, for disseminating information and providing access, under our proposal we suggest that we leave that and the development of value-added products and services to the private sector. Let them risk their capital to develop those new technologies and make those investments. So the Government gets the best of that world.

Mr. BROWN. I am not well informed as to the degree to which NTIS includes in its costs the factors that you have mentioned. Would you describe that a little bit?

Mr. ALLEN. My understanding from the materials that have been disseminated as part of the proposal to privatize during the last year, is that there are a number of functions other than just the collection and indexing which are funded by NTIS, apart from those activities. And I would have to go through that material to give you a specific list of what they are.

Mr. BROWN. I noted that you have made reference to that, but it was not my understanding that the NTIS included some of those costs including—well, you have mentioned collection, storage and indexing.

Mr. ALLEN. All those functions are recouped through the user fees, which the individual purchaser of a document pays.

Mr. BROWN. And you feel that should be borne by appropriations——

Mr. ALLEN. That's correct, if the user—you or I goes to NTIS to buy a document, all we should pay is the marginal cost of reproduction.

Mr. BROWN. Of reproduction.

Mr. ALLEN. Which not only would reduce the cost to you and me, but would make that information much more widely available throughout our society.

Mr. BROWN. Yes, it certainly reduces the cost and increases the market.

Mr. ALLEN. Mr. Brown, may I respond to something that you asked some of the other witnesses?

Mr. BROWN. Sure.

Mr. ALLEN. I'm not sure I have a clear answer but you asked why there is a diminishing amount of information being placed into the NTIS repository, and whether or not that has anything to do with the sensitive but unclassified information issue. Having had some involvement in that issue, I would like to speak to it for just a moment.

I think there are a number of reasons why the amount of information that NTIS is getting is diminishing. One, much information produced by our research communities elsewhere is no longer available solely in printed form, and one of the values of NTIS as a

Federal agency was that you could send your document to NTIS, you would pay no cost and it would be printed by NTIS. Having been in the Federal Government and having used NTIS for that purpose, I can assure you that is a great incentive. But to the extent that as a user you no longer want to print your document, you no longer have that incentive.

Second, I think the research community no longer feels in many instances that NTIS is meeting their needs. If it is not meeting the needs of individual users, that in turn reduces the incentive to put information into it.

But the third and most important point, I think, is that you are absolutely correct. I think that the Government's efforts to restrict access to unclassified information have had a very real, if immeasurable, impact on the ability of agencies to submit their information to NTIS.

We know that the Air Force is now reviewing a classified report called *Exploitation of Western Databases*, which, according to government officials who are reviewing that report, states that NTIS has too much Department of Defense and Department of Energy information in it already. And although no actions have been taken on those recommendations that we are aware of, it is not inconceivable that there is already a move afoot to reduce the amount of information. So I think that has a very real impact on it.

And although the definition of "sensitive but unclassified information" has been rescinded, I think the issue remains with us, and I would be surprised if there were not a movement throughout the Federal Government to reduce the amount of information in NTIS. Even the Secretary of Commerce has described NTIS as a sieve through which other nations are getting information. Though I would not be surprised if there is less information going there.

Mr. Brown. In view of the fact that the large majority of the total amount of scientific and technical information generated today comes from foreign countries, I think the Secretary of Commerce would be more concerned about how we can make that sieve work the other way and collect some of that information for our own use.

Mr. Allen. I would agree with you.

Mr. Brown. I have no further questions, Mr. Chairman.

Mr. Walgren [presiding]. Thank you, Mr. Brown. Can you make any comments on the President's Executive Order,[33] which I understand sets out a charter to substantially increase the collection and dissemination of information from foreign services to our public, and do that governmentally.

Mr. Allen. Mr. Chairman, quite truthfully, I am not familiar enough with the Executive Order to comment at this time.

Mr. Seals. The only comment that I would make is that we feel that at least in the area of chemistry, the foreign literature is being covered adequately, and would not look forward to competition from the public sector in that area.

---

[33] Executive Order 12591, "Facilitating Access to Science and Technology," promulgated April 10, 1987.

Mr. Walgren. I wonder what it is about chemistry that enabled you to cover your area where obviously other areas have not been covered.

Mr. Seals. One reason is that the American Chemical Society was founded in 1876; Chemical Abstracts Service was begun in 1907, we have a charter from Congress to carry out this mission.

Another thing is that the chemical industry has been very strong and has been willing to pay for the services it receives. They recognize the value of scientific information, so the mandate has been there for years. Before even information became as glamorous as it is, we were operating quite successfully and recovering all our expenses from the sales of subscriptions.

Mr. Brown. Maybe we ought to charter some of the other societies to do the same thing. [Laughter.]

Mr. Seals. Congressman Brown asked about the extent to which the scientific literature is being covered. One thing that I would call to your attention is the blurring of the lines between the disciplines. For example, it's very difficult today to draw a line between chemistry and biology, or between chemistry and physics, or between physics and mathematics. The result of this is there is very useful overlap between a lot of the databases, including overlap between our own database and that of the National Technical Information Service.

We also cover Government reports, of course, in our database. And since this is true, there are at least some of us in the private sector who would not, in fact, welcome having the National Technical Information Service offer its services at essentially no cost.

Mr. Brown. If the Chairman will yield to me briefly to follow up on that, am I to understand that your view would differ from that of Mr. Allen with regard to reducing the costs of the publications provided by the NTIS?

Mr. Seals. Yes, sir, that is correct. We favor cooperation between public and private sector, we work very well with several organizations within the Government, we compete with organizations within the Government. The only thing we would ask is that the Government charge a reasonable fee for the use of those services so that it does not undermine the activities of the private sector.

Mr. Brown. It would make it a lot easier for us if you two gentlemen could agree on something. [Laughter.]

Mr. Allen. That's the great thing about democracy, Mr. Brown.

Mr. Walgren. Well, you are both great Americans. [Laughter.]

Well, we have probably covered all the points that come directly to mind and we will be talking to you privately and separately to fill in any gaps in that. So on behalf of the Committee, thank you for being with us today.

Tomorrow we have our second hearing in this area, starting at 9:30 in the room down the hall, 2318, and we hope some of you folks might be interested enough to come. If you are, we will be happy to see you then. Thank you very much.

[Whereupon, at 4:28 p.m., the Subcommittee was adjourned.]

SCIENTIFIC AND TECHNICAL INFORMATION: POLICY AND ORGANIZATION IN THE FEDERAL GOVERNMENT (H.R. 2159 AND H.R. 1615)

WEDNESDAY, JULY 15, 1987

House of Representatives,
Committee on Science, Space, and Technology,
Subcommittee on Science, Research and Technology,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:46 a.m., in room 2318, Rayburn House Office Building, the Honorable Doug Walgren (chairman of the subcommittee) presiding.

Mr. **Walgren**. Well, let me call us to order and apologize for the somewhat delay in the start.

At the outset, the Chair would request that any media coverage—cameras and the like—without objection from members of the Committee, be permitted to record or otherwise be at this hearing today, and without objection, that will be the order.

I'd like to welcome everyone to this second hearing on Federal information policies. Yesterday, we talked about a number of topics relating to the collection and the dissemination of scientific and technical information, and the Committee certainly appreciates the time and the interest of the witnesses joining in these discussions.

We are pleased to welcome the Public Printer of the United States, who will discuss the operations at the Government Printing Office. The primary point of public access to Federal information resources is the Government Printing Office, and we have asked Mr. Kennickell and Mr. James Peirce, the President of the National Federation of Federal Employees, to join in a discussion involving the organization of this area as it impacts Federal information policy.

In light of the testimony that we received from the Department of Commerce regarding the future of the National Technical Information Service, we are particularly interested in their views on their contact with that agency and that function and how it should best go forward in the future.

Our hearings have demonstrated the complexities involved in trying to develop a mechanism that can simultaneously supply the information needs of the Federal Government and the public. Trying to balance the interests that are involved in this area and at the same time avoid the pitfalls that are created by the kinds of technological change that we've experienced is a difficult issue, but one that certainly deserves our attention.

We understand that the Office of Technology Assessment has a study underway in this area,[34] and we want to explore their work and the work of other organizations that are relevant to this area.

We will conclude today with a discussion of the President's Executive Order on competitiveness,[35] and particularly that section dealing with the collection and dissemination of foreign scientific and technical information resources.

A survey of the American Chemical Society's Corporation Associates[36] noted that increasing international technical capabilities meant that greater communication exists between domestic and foreign firms, and business planning must account for the increased global competition that we all face.

The Office of Technology Assessment report on services[37] that I mentioned yesterday said that improved Federal efforts in making these resources available to the American economy could certainly be a critical factor in improving our competitiveness.

This subcommittee was involved in the passage of the Japanese Technical Literature Act, and we are also interested in learning how the Department of Commerce intends to apply that experience under this new Executive Order, their experience in that area under the terms of the new Executive Order.

We also want to raise the role of the National Science Foundation and the Department of State and the question of their role in accomplishing the tasks set for them by the President in his Executive Order. The Department of Energy has already started down this road by organizing international information exchanges, and we want to include their experience in our survey of this field.

At this point in the record, without objection, the Chair will insert a statement by the Ranking Minority Member, Mr. Boehlert from New York, and recognize the gentleman from California for any opening thoughts that he might like to make at this point.

[The prepared statements of Hon. Sherwood Boehlert and Hon. Doug Walgren follow:]

---

[34] "Technology, Public Policy and the Changing Nature of Federal Information Dissemination," Communications and Information Technologies Program, Office of Technology Assessment.

[35] Executive Order 12591, "Facilitating Access to Science and Technology," 10 April 1987.

[36] "Trends in the Chemical Industry: 1987 Survey of ACS Corporation Associates," (Washington: American Chemical Society, 1987), p. 2.

[37] Office of Technology Assessment, *International Competition in Services: Banking, Building, Software, Know-How*, OTA-ITE-328 (Washington: Government Printing Office, 1987).

REP. SHERWOOD BOEHLERT (R-NY)
OPENING STATEMENT
INFORMATION POLICY HEARING
JULY 15, 1987

MR. CHAIRMAN:

TODAY'S HEARING CONCERNS THE MOST IMPORTANT "COMMODITY" A NATION CAN HAVE IN THIS TECHNOLOGICAL AGE -- INFORMATION.

INFORMATION HAS SOME ADVANTAGES OVER MORE TRADITIONAL COMMODITIES, BUT IT HAS ONE DISTINCT DISADVANTAGE -- IT BECOMES OUTDATED EVEN MORE RAPIDLY. WE NEED TO ENSURE THAT AMERICAN BUSINESS IS CONSTANTLY ON TOP OF THE LATEST INFORMATION HERE AND ABROAD.

SCIENTIFIC AND TECHNICAL INFORMATION FROM ABROAD IS INCREASINGLY VALUABLE. JUST AS WITH OTHER COMMODITIES, IT IS NOW POSSIBLE TO GET HIGH-QUALITY INFORMATION FROM OUR FOREIGN COMPETITION. WE HAVE TO BE SURE WE HAVE ACCESS TO THAT INFORMATION. THE PRESIDENT'S APRIL EXECUTIVE ORDER UNDERSCORES THAT POINT.

I LOOK FORWARD TO LEARNING THIS MORNING WHAT THE FEDERAL GOVERNMENT IS DOING TO DISSEMINATE ITS ENORMOUS STORE OF SCIENTIFIC AND TECHNICAL INFORMATION AND WHAT EFFORTS WE ARE MAKING TO ENSURE THAT WE TAKE FULL ADVANTAGE OF FOREIGN INFORMATION.

THANK YOU.

OPENING REMARKS
BY THE HON. DOUG WALGREN
CHAIRMAN, SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
ON FEDERAL INFORMATIION POLICY

JULY 15, 1987

I WOULD LIKE TO WELCOME EVERYONE TO THE CONTINUATION OF OUR HEARINGS ON FEDERAL INFORMATION POLICIES. YESTERDAY, WE DISCUSSED A NUMBER OF POLICY TOPICS RELATING TO THE COLLECTION AND DISSEMINATION OF SCIENTIFIC AND TECHNICAL INFORMATION. I APPRECIATE THE TIME AND EFFORT OUR WITNESSES PUT FORTH TO ASSIST THE SUBCOMMITTEE IN MOVING TOWARD SOLUTIONS TO THE PROBLEMS THAT CONTINUE TO PLAGUE THE GOVERNMENT IN THESE AREAS.

WE ARE ALSO PLEASED TO WELCOME THE PUBLIC PRINTER OF THE UNITED STATES, WHO WILL DISCUSS OPERATIONS AT THE GOVERNMENT PRINTING OFFICE, THE PRIMARY POINT OF PUBLIC ACCESS TO FEDERAL INFORMATION RESOURCES. WE HAVE ASKED MR. KENNICKELL AND MR. JAMES PIERCE, THE PRESIDENT OF THE NATIONAL FEDERATION OF FEDERAL EMPLOYEES, TO CONTINUE THE DISCUSSION WE BEGAN YESTERDAY INVOLVING THE ORGANIZATION OF FEDERAL INFORMATION POLICY. IN LIGHT OF THE TESTIMONY WE RECEIVED FROM THE DEPARTMENT OF COMMERCE REGARDING THE FUTURE OF THE NATIONAL TECHNICAL INFORMATION SERVICE, THEIR CONTRIBUTIONS TO THIS DEBATE WILL BE EXTREMELY USEFUL.

Our hearings have already demonstrated the complexities involved in trying to develop a mechanism that can simultaneously supply the information needs of the Federal Government and the American public. Trying to balance the many interests involved, while at the same time avoiding the pitfalls created by technological change, creates more questions than we can answer in these two days. We understand that the Office of Technology Assessment has a study underway in this area; we will be exploring their work and the work of other organizations for their relevance to our concerns.

We finish today with a discussion of the President's Executive Order on Competitiveness; specifically, that section dealing with the collection and dissemination of foreign scientific and technical information resources. A survey of the American Chemical Society's Corporation Associates noted that increasing international technical capabilities meant that greater communication exists between domestic and foreign firms, and business planning must account for increased global competition. The Office of Technology Assessment report on services that I mentioned yesterday said that improved Federal efforts in making these resources available to the American economy could improve competitiveness.

This Subcommittee was instrumental in passage of the Japanese Technical Literature Act, and we are eager to learn how the Department of Commerce intends to apply its experience in implementing that act under the terms of the new Executive Order. We also wish to understand the role the National Science Foundation and the Department of State will play in accomplishing the task set for them by the President. The Department of Energy has already pioneered this road by organizing international information exchanges, and we expect to obtain the benefit of their experiences in that effort.

Mr. **Brown**. Mr. Chairman, I have no statement.

Mr. **Walgren**. Then let's turn directly to the first witness, the Honorable Ralph Kennickell, Public Printer of the United States, and with his jurisdiction over the U.S. Government Printing Office. Mr. Kennickell is accompanied by Mr. Donald Fossedal; is that——

Mr. **Fossedal**. Fossedal (pronouncing differently).

Mr. **Walgren**. Fossedal (confirming pronunciation); I'm sorry, who is the Superintendent of Documents in the Government Printing Office, and we welcome you both to the Committee.

You have given us a prepared statement, and we appreciate that for the record, and we will enter that in the record, and we appreciate your coming to talk with us about this area of public policy.

So let me just turn to you, Mr. Kennickell, and perhaps introduce yourself and give us a start, and then we'll go from there.

STATEMENT OF HON. RALPH KENNICKELL, PUBLIC PRINTER OF THE UNITED STATES, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, DC, ACCOMPANIED BY HON. DONALD E. FOSSEDAL, SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE

Mr. **Kennickell**. Thank you, Mr. Chairman.

I have looked forward to the opportunity to make a comment on these two very important bills, as I consider information policy in the Federal Government to be something that it's time we addressed in the macro sense.

You have my prepared statement, which gives a detailed outline of the operations of GPO in a very highly statistical manner.

I have read both bills, and I am prepared to discuss both bills and also offer a viable alternative to both bills, and I look forward to your questions, sir.

[The prepared statement of the Honorable Ralph Kennickell follows:]

1861 · 125th ANNIVERSARY · 1986

United States Government Printing Office
Washington, D.C. 20401

OFFICE OF THE PUBLIC PRINTER

TESTIMONY OF
RALPH E. KENNICKELL, JR.
PUBLIC PRINTER OF THE UNITED STATES

BEFORE THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
JULY 15, 1987

Good Morning. I'm Ralph E. Kennickell Jr., Public Printer of the United States. In that capacity, I run the U.S. Government Printing Office (GPO). My prepared statement will give a profile of the scope of operations of GPO. I will reserve comments on HR 1615 and HR 2159 for the question and answer portion of this hearing.

The U.S. Government Printing Office first opened for business on March 4, 1861. Since that time, GPO has faithfully carried out its original mission--the production or procurement of printing for Congress and the agencies of the Federal Government. Since 1895, GPO has also disseminated Government information to the public through the Superintendent of Documents' publication sales and depository library programs. In performing these vital tasks for the Nation, GPO has compiled an enviable record of accomplishment and service.

Today, a new GPO--demand driven and service-oriented--is tapping that tradition to harness new technology to create an innovative agency able to carry out its mission in the "information age." As the Government's largest single information reproducer and disseminator, GPO plays a leadership role in using electronic photocomposers, high speed presses, computers, telecommunications, micrographics, and other state-of-the-art information technologies to meet the Nation's rapidly changing information needs.

(2)

At the heart of GPO's operations is its central office printing plant, primarily serving the quick-turnaround printing requirements of the U.S. Congress. Located four blocks north of the U.S. Capitol, the central plant employs some 2,200 production personnel to provide a full line of printing, binding, and related products and services to Congress and Federal agencies. Major congressional products include the Congressional Record, bills, resolutions, amendments, reports, and hearings. GPO produced a total of 44,216 Congressional Record pages in 1986. The Federal Register, GPO's major Executive Branch daily publication, comprised 52,212 total pages in 1986. Thirty-two thousand copies of the Register were printed each day. The central office plant also produced nearly 5 million passports for the State Department and more than 536 million postal cards for the U.S. Postal Service.

GPO's in-plant operations have undergone a complete transformation over the past decade. All hot metal composing activities have been converted to electronic photocomposition and the majority of letterpress equipment has been replaced with highspeed offset presses. Electronics technology has been in the forefront of this transformation. In 1986, GPO developed a dial-up data base composition service, which gives customers the full power of GPO's composition system in their own offices. This system, permits federal agencies to key in their documents on word processors or microcomputers, transmit them over phone lines to GPO for page composition, and proof the composition after they have been transferred back to the agencies' laser printers. Presently, this system is in use by the Federal Aviation Administration, the Office of the Clerk of the House, and the House Veterans' Affairs Committee. The Senate Office of Legislative Counsel is also connected into the system through a fiber optic cable.

The Government Printing Office also is responsible for purchasing the Government's printing and binding requirements from commercial contractors and for the acquisition and management of all material, supplies, paper, and equipment used by the Office. GPO adheres to the Government-wide policy of utilizing private sector contractors to the maximum possible extent to obtain products and services at the most competitive prices. We currently have 13,619 firms on our active bid list.

GPO wrote 311,082 printing contracts in 1986, producing revenues of $563 million. About 75 percent of these jobs were placed with the private sector through GPO's regional procurement offices. In 1986, we opened new regional satellite procurement offices in Charleston, San Diego, Oklahoma City, and New Orleans, bringing the total number of such facilities to 19.

GPO is also responsible for a broad range of Government information dissemination programs and services, including the sale of Government publications, the compilation of catalogs and indexes of Government publications, the distribution of publications to depository libraries as required by law, and mailings for Government agencies on a reimbursable basis.

In 1986, GPO's Publications Sales Program in the Superintendent of Documents' Office, produced revenue of $62.8 million against expenses of $57.3 million for a net income of $5.5 million, a 25 percent increase over 1985. GPO realized $11.5 million in sales through its network of 23 bookstores; a 24 percent increase over 1985, and almost $2.5 million in revenue came from consigned agent sales. Preliminary data indicates potential revenue of $73 million for FY 1987.

Within the past two years, several agencies have asked GPO to sell bulk forms that had previously been distributed by them at no charge. GPO is now selling mortgage application forms for the Department of Housing and Urban Development and the Veterans' Administration, as well as Medicare forms for the Health Care Financing Administration. In addition, GPO sold a sampling of Internal Revenue Service forms to tax practitioners for the 1986 tax year, and this successful program will expand to include the entire range of IRS forms for the 1987 tax year.

GPO's Publications Sales Program is supported by a broad range of marketing programs. The "U.S. Government Books" catalog is GPO's leading public promotional vehicle, and last year sent out 438,000 copies to those who had requested copies. Catalog requests are generated largely by print and broadcast Public Service Announcements (PSAs). A new series of PSAs for television was released earlier this year and currently is receiving extensive airtime across the country.

"New Books," a bimonthly listing of all new publications added to the sales program, keeps 55,000 librarians and information professionals abreast of the latest Government publications, particularly in the areas of science and technology.

Direct mail makes up a major portion of GPO's marketing program. A series of flyers aimed at selected audiences promotes relevant Government publications to hundreds of thousands of recipients each year. The Priority Announcement Program notifies more than 750,000 customers of important new publications in their special fields of interest.

Our GPO bookstore program now is being enhanced by a comprehensive expansion relocation and refurbishment campaign, extensive direct mail promotion, and the production of handout promotional materials. To increase public awareness of this wealth of free information, GPO uses broadcasts and prints Public Service Announcements, promotional brochures, posters and bookmarks, and traveling portable display units.

At the Frankfurt International Book Fair in October 1985, I was exposed first-hand to the tremendous demand for U.S. Government publications overseas. As a result, I directed the Superintendent of Documents to immediately begin investigating avenues to make GPO sales titles more accessible worldwide. With the assistance of the U.S. Information Agency and the Foreign Commercial Service, we now have exhibited Government books in each region of the globe and have researched a wide variety of techniques for gaining access to those markets.

This year GPO embarked on a program of locating appropriate indigenous importing bookdealers to act as distributors of U.S. Government publications for their countries or regions. As a result, we already have successful distributor arrangements in Canada, the United Kingdom, and Italy. We have consolidated sales in the Peoples Republic of China through a single agency of its government. Three Japanese freight forwarders now are receiving GPO books at Dulles airport and air freighting them to their Tokyo sales outlets. In October, we plan to interview potential distributors for Saudi Arabia and the Persian Gulf region. By this fall, we hope to have located appropriate distributors in West Germany and Spain.

GPO also distributes vast quantities of information through its administration of the Federal Depository Library system. We estimate that from 10 to 12 million people a year use the information made available through this program. At the end of Fiscal Year 1986, there were 1,394 libraries designated as Federal depositories and required by law to ensure free public access to Government publications supplied by GPO and paid for by Congress. During 1986, GPO distributed over 24.5 million copies of 51,000 titles in both paper and microfiche formats to these libraries. The Micrographics Section of our Library Programs Services converted 29,000 titles to microfiche for a total of 12.8 million copies representing 56.5 percent of total copies distributed compared to 54 percent in 1985. Microfiche conversion has become more vital in light of budgetary constraints in recent years. Of special note is the 35 percent improvement in delivery of publications to libraries. This dramatic improvement can be attributed to the emphasis placed on quality assurance by management and to the implementation last year of an automated distribution management system.

To keep information dissemination through the Depository Library system on the cutting edge of technology, GPO works with the Joint Committee on Printing (JCP) to study the impact of new developments in this rapidly changing field. In addition to strong support from the JCP, GPO's initiatives in this area have been endorsed by the American Library Association, the Association of Research Libraries and other segments of the library community.

GPO also administers three other information dissemination programs in compliance with the law requiring us to distribute certain Government publications without charge, both for Congress and for certain Federal agencies. In 1986, GPO distributed 7.2 million publications in accordance with various statutory requirements, including the mailing of such well-known publications as the *Congressional Record* and the *Public Papers of the Presidents*.

GPO also provides mailing services to Federal agencies on a reimbursable basis. In 1986, GPO mailed approximately 47 million publications for other agencies. GPO also performs distribution services for the International Exchange Program administered by the Library of Congress. This program, in accord with various international treaties, provides for the distribution of U.S. Government publications to certain libraries around the world.

These programs all disseminate a great deal of scientific and technical information. We conservatively estimate that about 65 percent of the approximately 14,000 titles in our sales programs are scientific or technical in nature. The percentage is even higher for the Depository Library Program.

GPO's massive and long-term involvement in the dissemination of this kind of information through all these programs often gives rise to comparisons between our activities and those of the Commerce Department's National Technical Information Service (NTIS). Like NTIS, we sell scientific and technical information generated by the various agencies of the Federal Government in hard copy, microfiche, and magnetic tape. Both agencies make most of their sales through direct mail, and both make access to their databases available through commercial vendors. However, there are many important differences. GPO has been selling Government information since 1895, while NTIS began operation after World War II. We employ 975 people in this effort, while NTIS employs about 325. Although a majority of our sales items are scientific and technical in nature, we also sell many general interest publications. To do this, we market our information products aggressively using our public service announcements, direct mail promotions, publisher-created exchange advertisements in Government publications, and our nation-wide network of 23 Government bookstores, soon to be expanded to 26 with the opening of new stores in Portland, Indianapolis, and Minneapolis-St. Paul. This high-visibility approach to marketing creates greater public awareness of and access to a wide spectrum of Government scientific and technical information.

Our large, efficient, and widely-known sales program permits us to offer information products at reasonable prices, recover all of our costs, and, in recent years, return a sizeable surplus to the Treasury.

Because our missions are so closely related, GPO is pleased to work with NTIS to ensure the most efficient and cost-effective dissemination of scientific and technical information to our constituency, the American public. To this end, we are in the process of forming a working group that will come together to discuss closer cooperation in fulfilling the public's need for scientific and technical information. The combination of GPO's size and experience and NTIS' specialized skills can only lead to a more informed public.

A recent development that may have an adverse impact on the dissemination of Government scientific and technical information is a recent change in the Federal Acquisition Regulation (FAR) permitting Government agencies to bypass GPO in fulfilling their printing needs. This is not a selfish concern on the part of GPO, but rather a concern for the information needs of our Nation. The GPO was founded because of the disorganization, price gouging, and corruption that flourished in the printing of Government documents during the mid-19th century due to the lack of a centralized Federal printing authority. I believe a similar decentralization now would result in inefficiency, waste, and increase the cost of Federal agency printing.

Another problem more germane to the subject I have been addressing today is the high probability that Government documents will not be submitted to the Depository Library system because of this FAR change. This will remove important documents from this principal source of free public access to Government information. The same problem could arise in our sales program and in the International Exchange Program. I hope that this aspect of the new FAR will receive careful examination by this Committee and Congress.

In the United States today, the technological revolution is causing a fundamental transformation in information dissemination. This transformation has been accompanied by an awakening to the fact that information itself is a highly valued resource. So crucial has information become to our economy that the efficient and effective management of both public and private sector organizations depends on how well those organizations manage their information resources.

The Federal Government is an information-intensive enterprise, serving as the largest single producer, consumer, and disseminator of information in the United States. The business of governing depends on accurate and timely information. This in turn depends on effective and efficient information systems. As the Government's largest single information reproducer and disseminator, GPO will continue to use advanced information technologies to meet the changing information needs of the Congress, our customer agencies, and the American people.

GPO's mission today, tomorrow, and beyond is clear. Although the way we perform that mission will evolve as we continue to meet the challenges imposed by the rapidly changing world of information reproduction and dissemination, the basic principles of our demand-driven, service-oriented philosophy will remain unchanged. It was these principles which have guided GPO for more than 126 years, and which will continue to stand us in good stead in the years to come.

###

Mr. **Walgren**. Well, I understand that you wanted to limit your verbal presentation, and that's fine with us.

Let me ask for your comments on the more sweeping of the bills for starters, 1659, which would bring together all the Federal information policies and see if we can get some perspectives on that.

Mr. **Kennickell**. Sir, you are referring to 1615; is that correct?

Mr. **Walgren**. 1615, yes.

Mr. **Kennickell**. That's the bill by Mr. Brown proposing the establishment of a Government Information Agency to enhance the economic, scientific, and technologic position of the United States by acquiring, processing and distributing the fruits of federally performed, federally sponsored research, development and analysis and for other purposes.

To do that, I realize that the bill would propose that both NTIS, a portion of the Department of Commerce, and the entire Superintendent of Documents operation, which is a portion of the Government Printing Office, would be assembled under this new agency, GIA. Also, there would be a new oversight committee, Joint Committee on—I believe it's Government Information—be created, and then there would be an initial appropriation of $15 million to establish the agency, and then whatever operating expense beyond that would be handled in a normal appropriations fashion.

I submit to you, sir, that the Government Printing Office already performs the bulk of the desires of 1615. Most people outside of government—particularly, I should say outside of the GPO—are starting to become very much aware of the Government Printing Office, and they are becoming very aware of the GPO as a result of the very extensive and very effective advertising and marketing program in which we promote to the entire population of the United States through various methods the services—that is, the publications that are available in the Superintendent of Documents operation—available every day to all the millions of people in the United States.

We have been so effective in this process that gross revenue has risen from $59 million in just 1984. We think that we will top somewhere around $73 million in gross revenue this year. We are doing that with an operating surplus, I might add also. It works out of something like a revolving fund.

The Government Printing Office has 23 bookstores on line right now, scattered throughout the United States. We are bringing three new bookstores on line within the next nine months. We have been taking the bookstores that I inherited in 1984 and are moving them out of poorly located areas in Federal buildings, moving them into such exotic places as shopping malls and restored buildings in downtown major metropolitan areas in an effort to get the documents where the people are.

This is something that I'm very proud of. It's something that all our bookstore managers are proud of. In fact, what's happening now is that we've got a huge increase in volume. People are discovering the Government Printing Office's publication program.

We also distribute publications on a reimbursable basis through the Consumer Information Center in Pueblo, Colorado. Millions and millions of publications are sent out. These are low-cost or free publications from that operation that we've been running on a reimbursable basis from GSA [Government Services Administration] now for years.

Mr. **Walgren**. Let me ask, we have this increase in volume and interest since 1984 in some measure. Has that also been true with the consumer information outlet?

I guess I can understand a large increase if you move your locations to where the people are. But has there been a similar substantial increase in interest by the public in documents distributed, as they always have been distributed, as I understand it through the consumer information mailing operation in Colorado?

Mr. **Kennickell**. Don, would you care to answer that one?

Mr. **Fossedal**. Yes, sir. Thank you, Mr. Chairman. It's a pleasure to be here and have the opportunity to answer your question.

Basically, the bottom line effort is yes. The number of publications out of the Pueblo operation has risen or stayed fairly stable through the last few years. However, there has been a shift in the mix of publications.

Originally when the Consumer Information Center—I think it was started up in the '70s—all the publications or virtually all the publications that were distributed were free publications. Through the years, there has been a cutback in the number of publications provided by Government agencies, both for sales items and for free items, so there weren't as many publications available free out of the Consumer Information Center.

In the last two or three years, we have provided what we call our low-priced publications of consumer interest, which are being sold out of Pueblo, plus other GPO publications that are of consumer interest, so the bottom line, the distribution is about the same. It isn't all free. Now some of it is low-priced publications, and the total volume has remained relatively the same; yes, sir.

Mr. **Walgren**. So volume in that aspect is the same, but when you look at your overall volume, it's up, so obviously the increases are coming in these other areas where you've put these bookstores——

Mr. **Kennickell**. Yes, Mr. Chairman. That's correct.

Mr. **Walgren**. All right. Please proceed.

Mr. **Kennickell**. GPO also has a very extensive relationship with Federal depository libraries. There are almost 1,400 libraries scattered throughout the United States that are daily recipients of U.S. Government publications. These things are mailed out. This is a reimbursable—actually it's part of an appropriation. It's part of the Salaries and Expenses appropriation that we get from Congress on an annual basis—that we send these products to, and there's some ten to twelve million citizens in the United States that frequent these libraries on an annualized basis, and they're exposed to this type of information. And each library gets the chance to pick and choose, within certain limits, the types of publications and products that they're interested in.

Sometimes we feel like that we have a marketing opportunity on different topics, and we will create special promotional flyers and send them to businesses around the United States and encourage them to, let's say, export or contact the Government Printing Office, and we'll send you these publications on export potential, and right now we're working on some products regarding competitiveness.

So there's a lot of things that we can do to target different types of audiences around the country. We're very effective with that, and we have mailing lists that comprise over three quarters of a million people that we send these mailings to on a fairly regular basis.

So our network throughout the United States and interaction throughout the communities and with the population—it's really, sir, quite extensive.

Mr. WALGREN. So in reaction to the thoughts of 1615, we're essentially saying that you're marketing like mad, and your distribution is showing increases.

Let me get some comments then, as well, on the second bill with respect to the NTIS, and then I'd like to, since this H.R. 2115—no, I'm sorry—since H.R. 1615 is of particular interest to Mr. Brown, I want to turn to him at that point and give him an opportunity to develop it with you.

But if you would give me some thoughts on the second bill with respect to NTIS.

Mr. KENNICKELL. Certainly, Mr. Chairman. H.R. 2159 is a bill to amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned government corporation under the direction and supervision of the Secretary of Commerce.

In that, the only impact on the Government Printing Office is very minimal. It indicates in the bill that NTIS would continue to function in its GOCO [Government-owned, contractor-operated] life, the same as it had when it was part of the Department of Commerce.[38] Essentially that means they would provide us with the normal bibliographic type information that they're doing right now, which we have no problems or questions with.

The broader issue that I'm sort of looking at—maybe I'm reading between the lines a little bit—is sort of like maybe this is an attempt to sort of deal with NTIS, maybe regarding its future. We're all aware that NTIS origins go back to just post-World War II, and its basic function is to disseminate technical information, and recent moves over at Commerce have led one to believe that maybe Commerce would like to privatize NTIS. I also am aware that over the last eleven years, at least up through '85, the fiscal year, NTIS has had four deficit years. In 1985, I believe, they sustained a loss of $775 million on about $2.1 million in gross—excuse me—$775,000 on a—boy, I tell you, these millions get out of hand—a $775,000 loss on a $20.1 million gross revenue. I got it out.[39]

I believe that if the intent is to try and figure out what to do with the NTIS, give it a home, then as the Public Printer, I would like to offer it a home in GPO as a division under the Superintendent of Documents. I believe the GPO has certain assets available that are necessary to, let's say, dust off NTIS, shoot some energy in it, and I can turn it into a viable operation, and I'd be willing to take a stab at that, and that probably is about as far as I can go.

---

[38] H.R. 2159 would reconstitute the National Technical Information Service as a Government-owned, Government-operated corporation (a "GOGO").

[39] Mr. Kennickell requested that this sentence be changed to read: "In 1985, I believe, they [NTIS] sustained a loss of $775 million [*sic*] on a $20.1 million gross revenue." His comments show that the actual loss was $775,000.

But essentially, 2159 has no impact on GPO whatsoever.

Mr. **Walgren**. We had, yesterday, administration witnesses that were essentially saying that the problem with NTIS was that it was a government operation, and that when you had an agency that was a government operation, that somehow or other you couldn't expect them to have the interest in marketing and the interest in maximizing their revenue and their sales, and yet in your operation certainly the experience with a government agency has been the opposite.

Does that mean that it really is a question of leadership within these organizations when you say you want to shoot some energy into them if you had them under your wing? Is it really just a question of, if you can be successful in this effort, certainly the right person, the right management, in a government structure could be as successful there as elsewhere unless there's some institutional barrier here?

Mr. **Kennickell**. Well, sir, I don't want to comment on the leadership of Commerce or their structure. But information is my business, and we have a long history in dealing with the public and information. And I can't say that GPO has always been totally successful. We've had to learn a few hard lessons in the years before I became Public Printer.

But my basic philosophy is, I'm a marketing creature, and I understand what GPO is supposed to do, and I will do everything necessary to make information available to the people in the United States, as long as I'm able to recover my expenditures along those lines—and we've been very successful, sir.

I don't know if it's my attitude or if it's the attitude of everyone in the Superintendent of Documents, but they know that I mean business and that I expect them to act in a businesslike manner. For example, the three new bookstores we'll be opening up—Portland, Minneapolis/St. Paul, and Indianapolis—those cities are being carefully scrutinized right now, as we speak, to determine the proper locations for the bookstores—and that we're not going to be locating these stores in a Federal building like I inherited. We're going to be putting these stores where the people are, which is sort of a radical thought when you think about it. We all know the real estate agents say, "Location, location, location is all there is," and quite frankly, if you apply that sort of logic, which is good logic—it's proven logic—when you apply that to U.S. Government bookstores, and you have the same sort of opportunity for success.

But I would say that information is my business. That's what I do. I don't want to comment on Commerce, regarding what their drives are, but if you look at an organizational chart, NTIS is a few levels down out on the wing. If you look in the Superintendent of Documents operation within GPO, Mr. Fossedal is an Assistant Public Printer and Superintendent of Documents. He reports directly to me, and I get involved in the marketing aspects in the GPO bookstore program and also the rest of our document sales.

I'm very proud of it, and I've got good people. I inherited some great Federal workers over there, and the only thing I did was give them a chance to do what they knew was right to start with. If you couple that with the way I look at things, we've had a good year or two.

Mr. **Walgren**. Well, let me recognize the gentleman from California.

Mr. **Brown**. You do present a picture of an extremely successful operation. You wouldn't like to hazard a guess as to whether or not this may be due to the fact that you're not under the Executive Branch but work directly for the Congress being a possible reason? [Laughter.]

Mr. **Kennickell**. No, sir. I don't think that has anything to do with it. I think it's the way I do business and the opportunity that I've had to exercise my prerogatives as Public Printer.

Mr. **Brown**. Well, it does pose some interesting problems, as the Chairman has already mentioned; there are some interesting issues. I commend you for the aggressive way in which you have managed the operation and the aggressive effort to do the job which I think the Congress wants to be done and you want to see done, bringing information to the American people as effectively and as economically as possible. I think that's the name of the game.

You've dissipated the myth that a government operation cannot engage in an aggressive merchandising and marketing program, for example; and you've hypothesized that you're able to do that because you're in charge; that's your mandate, and good executives are carrying it out; that NTIS possibly doesn't have the same sort of top-level support which would allow that to be done and the same type of, perhaps, budgetary support.

Is that the only explanation, or are there other explanations that you might venture?

Mr. **Kennickell**. We have an excellent working relationship with our oversight committee, the Joint Committee on Printing, and one cannot succeed without a positive working relationship, and the new Chairman and the Vice-Chairman of the JCP are very supportive of my efforts along the information dissemination operations within GPO.

I might also add, there's something that maybe I should have mentioned earlier, is that GPO not only disseminates information in the continental United States, but we're starting to do this worldwide. Back in the fall of 1985, I started out with an initiative at the Frankfurt Book Fair, and we've expanded our participation in overseas book fairs and have worked up commercial relationships with countries around the world, including the People's Republic of China. I've got a positive balance of payments with Japan, I might add. [Laughter.]

Mr. **Brown**. There's probably a reason for that, too.

What about our exchange with the Soviet Union? Have we penetrated that market yet? I imagine there would be a big demand over there.

Mr. **Kennickell**. No, sir. There is a—there's a book fair that's going to be in Moscow in a few months, and the U.S. Information Agency is negotiating the protocols with the Soviets right now, and I have met with a number of the top Soviet publishing officials, including the editor of *Pravda*, who is not only my counterpart but also—you know, they don't have a private sector as we know it, but he is me and everything in the private sector all balled into one.

And so I've got some dialogue that we've established. But with regard to the book fair, the USIA will be exhibiting over 100 different publications from the GPO inventory, and one of the stipulations that I asked be made in negotiating the protocols is that the publications that the GPO sends be heavily weighted toward the celebration of the 200th year of our Constitution, of which I have numerous books in our inventory. And part of that is going to be 2000 at least pocket size copies of the Constitution, free; to be given away to Soviet citizens.

Mr. Brown. Do you think they're going to allow that?

Mr. Kennickell. Well, we'll just see how far *glasnot*[40] goes. It's going to be in English. And I tell you, sir, my opinion is, if they're serious about *glasnost*—and I'm not here as a foreign relations expert—if they're serious about it, then what can 2000 little old pocket size publications do to a great big country like the U.S.S.R?

Mr. Brown. Well, the answer to my question is that you're moving toward the opening up of the Soviet Union as a market in the distribution field for your publications. That's all to the good, as far as I'm concerned.

Mr. Kennickell. Yes, sir. At about the same time as the Soviet book fair, the Superintendent of Documents and the Deputy Public Printer will be in Frankfurt to attend the Frankfurt Book Fair, and then about that time, I'm going to be in Saudi Arabia, as I'm going to kick off an extensive book exhibit throughout the university system within Saudi Arabia. And also we look to work out commercial relationships with Saudi importers.

So we're taking a pretty active stance literally around the world.

Mr. Brown. All right. Let's get back to 1615 for a moment. Do you interpret that as to result in the total incorporation of GPO within the new U.S. Government Information Agency that's proposed or as merely incorporating the distribution and marketing arms of the GPO or the Superintendent of Documents, while leaving the printing operation within the purview of—or as they exist today?

Mr. Kennickell. Sir, the GPO does three things primarily. We print, and we procure printing, and then we disseminate information. I view 1615 as taking all aspects of information dissemination from GPO, which is everything under the Superintendent of Documents. We're talking about the Depository Library Program and all the sales, taking SUDOCs [Superintendent of Documents] and moving them into the GIA. I don't envision it having any other impact within GPO other than that.

Mr. Brown. And do you feel that that would have a highly adverse effect on the overall operation, or is it a livable situation?

Mr. Kennickell. It would hurt me, sir. I'm sure it would cause my appropriation request to go up, as Superintendent of Documents pays for a portion of the overhead in GPO and they have about 975, maybe a little less than that, employees right now—and we expense our overhead and square footage within GPO on a proportional basis.

---

[40] According to the Congressional Research Service, the term *glasnost* is defined in Soviet dictionaries as "availability, publicity." As used by Mikhail Gorbachev, General Secretary of the Communist Party of the Soviet Union, the term is apparently used in the context of "opening up" information channels that previously were blocked by ideological considerations. The term may also have been used in the period following Nikita Khruschev's official denunciation of Stalinist policies.

There is a sizable portion within the main complex of GPO that is dedicated to the Superintendent of Documents, which, if they were pulled out, there would be nothing there.

But I kind of feel like that would be a small price to pay, if information were properly disseminated to the people in the United States. But I sort of approach it from a little roundabout way. I submit that, hey, you don't need to do this. Why don't you give me the functions? I'm doing most of them now, and I wouldn't need the $15 million that 1615 proposes to give to the new GIA. I can do that now.

Mr. **Brown**. You expressed, or possibly you didn't, but I'll raise the issue of the impact of the new Federal Acquisition Regulations.[41] With regard to the continued role of the Government Printing Office, that conceivably that would result in some diversion of the business that you now enjoy. Do you see that as a trend which is likely to continue, and have a substantial impact, or is it something that is going to be minimal impact?

Mr. **Kennickell**. Well, sir, the FAR change would roll back the way printing is produced in the Federal Government. Roll it back, all the way back to pre-GPO days. We can go all the way back to the Buchanan[42] administration and the origins and reasons and logic for the establishment of GPO.[43] I think that the FAR change—I try and minimize it publicly and say that that's the Executive Branch asking to exercise their prerogatives. And I try and avoid trampling on that. However, anything that decentralizes and disorganizes, which is what I think the FAR change ultimately can do, would have a detrimental effect on, not only the GPO, but I think that it would have a detrimental effect for the information being available to the, at least the library programs. It would probably be—I'm just guessing right now, it would probably have a negative impact on publications available for the bookstore sales program; and other retail type sales. And I would suspect that it would cause some duplication of services within certain Federal agencies, as they try to duplicate precisely what GPO has already created. You know, most people don't realize that three-quarters of our total printing revenue is procured in the private sector. And we buy that in the private sector for less money than it can possibly be produced in the Government.

---

[41] Mr. Brown refers to changes in Federal Acquisition Regulations implemented by the Department of Defense, General Services Administration and National Aeronautics and Space Administration on 1 July 1987 (see 52 *Fed. Reg.* 9036-9039). The agencies claim that the oversight role exercised by the Joint Committee on Printing in the area of Executive Branch publications is unconstitutional under the terms of the Supreme Court decision *INS* v. *Chadha* (103 S.Ct. 2764 (1983)).

[42] James Buchanan, 15th President of the United States.

[43] "Government publications had serious drawbacks. Contracts were let out to private printing firms. The quality of craftmanship accordingly varied from the outstanding printing and engraving of David Dale Owen's geological report on Wisconsin, Iowa and Minnesota in 1852 to the outrageously shoddy workmanship and paper of John W. Foster's and Josiah Whitney's reports on the Lake Superior district in the same year, so bad that Congress had them done over (to little avail). Of the latter reports Whitney wrote that the printer was 'notoriously defrauding the Government,' but 'there are so many who have their fingers in the spoils,' that nothing could be done about it. At about that time Congress made some reforms in contracting for publication of its own documents, and so they improved in paper, presswork, and proofreading, though not in binding. . . . But the establishment of the Government Printing Office in 1861 ended the corrupt farming out of printing jobs; and meanwhile, with all their shortcomings, government publications had carried a large share of American scientific output." Robert V. Bruce, *The Launching of Modern American Science, 1846-1876* (New York: Alfred A. Knopf, Inc., 1987), pp. 242-243.

Mr. **Brown**. Because of your high volume, and managerial expertise—the centralization, basically.

Mr. **Kennickell**. We have a very sophisticated printing procurement operation with over thirteen thousand commercial printers on a computerized bid-list that we access. In fact, we are now starting to give them soft-copy terminal display in their offices, as to what's in the GPO procurement inventory. So we've had some bumps in the past in setting up that program, but I tell you, sir, our procurement operation is a thing of beauty. We buy printing in every district in the United States; we buy it for less money than can possibly be produced in Federal plants, and I couldn't be more proud of the people in that operation.

Mr. **Brown**. We appreciate your expression of pride. It's comforting to know that you have an operation you are proud of, but you are essentially expressing precisely the argument that's led to the proposal in 1615; that this would prevent a dissipation of all of these activities, loss of economy and so forth? The current system, which is within the purview of a multitude of different agencies, whereas 1615 would bring them together and do precisely what you are so proud of in the GPO.

Mr. **Kennickell**. I think 1615 has a potential for centralization, and organization of Government information dissemination, and I am very much in favor of that concept. And I think the only way I differ with 1615 is that I don't think you need to create another agency to do it. You've got one here and I'd like to have it, and let's talk about that.

Mr. **Brown**. Well, you're a good enough witness. We may have to talk about that.

Mr. **Kennickell**. I'll make you an offer you can't refuse.

Mr. **Brown**. Tell me, what's the situation with regard to the attitude of the private sector here? You know, we have seen, we've had testimony from the private sector with regard to NTIS that they can do most of what NTIS is doing, they can do it cheaper, better; that to some degree it infringes upon prerogatives of the private marketplace. Don't they make exactly the same argument about your operation? And, if so, how do you handle it?

Mr. **Kennickell**. Well, the printers all around the country like us. They're big supporters, because we—we make Government purchases available to all the printers in the United States that are within our system. And it is not hard to get into the system, by the way. I believe that there are economies. Several years ago, the GPO did a quiet little study to determine all the different information dissemination points within the Federal Government. And if memory serves, there were some three hundred and fifty throughout the Government, and that those three hundred and fifty, that were estimated, we were able to get financial data on a relatively small number of them, and it seems that the financial data showed there was over—an expenditure in excess of $100 million. I'm going back in time, and I'm pressing my memory, but I believe there is ample logic that a concept of bringing the information dissemination units within the Federal Government under a common agency has a great deal of merit, and that it troubles me that some people want to privatize everything. Now when you deal with Government information you've got to either take it all or leave it all alone. And I know that there are a lot of people who would love to have the information dissemination of the *Congressional Record*. They would love to have the information dissemination of the *Federal Register*, and the *Commerce Bulletin*.[44] But they're not willing to disseminate the books on ticks; they're not willing to disseminate the books on how to take care of your babies, and all the other child-care books and products. I didn't ask for it, but in the paper yesterday there was an article on the "Federal page" of the *Post* which indicated a number of the publications that GPO disseminates——[45]

Mr. **Brown**. Best seller list——

Mr. **Kennickell**. Right. But there are also a number of things in there that are not best sellers and I would suspect, and I don't mean to speak for the private sector, but if you have to make a buck on something, you are not going to carry the dogs. And there are a lot of things that have a low threshold of sales that GPO carries, because it's important information to a segment of our population. And GPO does not, or the Government, I should say, does not copyright its information. For example, if I sell the franchise handbook from Commerce, there's nothing to prevent the private sector from buying a copy, cutting off the cover, and reprinting this product on their own, putting a new cover on it, and selling it for any price they want—which has happened to that publication. But I submit to you, sir, that I think Government information is a take it all or leave it all proposition, and you can't go in there and pick this thing apart. It's just too important.

Mr. **Brown**. All right. But the point I'm trying to get at and this point was stressed by a couple of the witnesses. I don't think that any of them were suggesting that they take over all the government functions—we're talking specifically of NTIS—but it applies to your operation too. In most cases they use the term that we need to develop a public-private partnership, in which we allow the system to work at its optimum, with a proper balance between the roles of the public and private sector. Now what you are describing to us seems to be a system in which you have reached a workable balance; that the private sector, because of their widespread participation, 13,000 firms doing 75 percent of your printing business, so forth, they—at least the printing end of it—they seem to be happy. And what I'm looking for is some insight as to how we—what should we look for in determining what that proper balance between public and private sector is. And we'll assume that you have developed that partnership for the printing end. How about the distribution end? Are the publishers who disseminate documents, are the people who distribute documents, the booksellers, and so forth; do you feel that you have a satisfactory partnership type of approach here, or are we building up a large opposition—and, as you know this Administration politically would like to see us move more in the direction of the private sector. They might like to see your bookstores taken over and franchised by Crown Books, or something like that. How have you established that working partnership relationship that seems to be so satisfactory, in your case? And we want to use that as a model for the NTIS, possibly.

---

[44] Mr. Kennickell probably refers to the *Commerce Business Daily* here.

[45] David S. Hilzenrath, "Mrs. Max West's 60-Million-Copy Best Seller, and Other GPO Hits," The Washington *Post*, 14 July 1987, p. A13.

Mr. KENNICKELL. Well, regarding the printers, that's a mutual admiration society. What it's developed into is that all printers are hungry for business and GPO relies on the private sector printers. In fact, when I go out and speak to printers' groups, I tell them I need them as much as they would need me, and probably I need them more. Now regarding the private booksellers—we do have arrangements with the booksellers in the United States, where we do discount bulk sales to them now. But there's nothing to prevent us with—from striking any sort of a commercial relationship with any bookstore or book-chain within the United States for the dissemination of information. That's what I'm more interested in—is making sure that the information is available, at a reasonable cost in a reasonable fashion to the people that need it. And I never met a man that I couldn't do business with, and I felt that, if we were asked to, I'm sure that we could strike a cordial relationship with all the booksellers, or the other information dissemination units within the United States; they're not all booksellers. And GPO doesn't sell only books; neither does NTIS.

Mr. BROWN. All right, I'm—I don't want to belabor this too much, but you are making an impression, I assure you. Could you supply for the Committee a copy of that report that you had some difficulty remembering the details of, on the number of different government printing functions, the document distribution functions that you mentioned, a $100 million cost?

Mr. KENNICKELL. Sir, I'll see if I can find it. I read that several years ago; there was only—might have been one or two copies. But if I can find it, I'll certainly submit it, or I'll get you, get you whatever I have.

Mr. BROWN. Give us a more precise citation, and we'll dig it up ourselves if you don't—can't find a copy for us.

Mr. KENNICKELL. I'll do what I can.

[The report appears in Appendix I.]

Mr. BROWN. Along the same line, the Office of Technology Assessment is doing a study, as I understand it, technology of public policy and the changing nature of federal information dissemination. Now this might be, to some degree, a duplication of that earlier study, I don't know, and I don't have any knowledge about it. Are you familiar with this OTA operation? Are you cooperating with it? Can you give us some reaction to it?

Mr. KENNICKELL. Oh, yes sir. In fact, I'll say that the study that I cited earlier, that was an internal document that was done in an effort to see if we could just accumulate the data.

Mr. BROWN. Yes.

Mr. KENNICKELL. And we got portions of it. The OTA study, I'm very much supportive of that—I consider that probably the single most important thing going on in GPO's life right now. That study's been commissioned by Congress, and there's a lot of Congressional interest in it, and I believe that we're cooperating as fully as could possibly be expected. I've got one person over there talking with them right now. And we're constantly going back and forth and providing them information. They've been in, they've looked our operation over, and essentially, I've thrown open the books to anything they want. And I'm very pleased with the scope and the professionalism of the study at this point. I can hardly wait for it to come out. I'm dying to read this thing because I'd like to know what we're going to ultimately be, or at least what OTA would propose.

Mr. BROWN. Well, OTA won't propose anything, because that's not their role, but I'm very pleased to hear that you are cooperating with them, because we do expect that it would provide us with the information that will allow for this analysis of the policy options, and that's what the purpose of the OTA study is, analyze the impact of the various different policy options here, and we trust that with your cooperation, they will do a good job in doing it for us. I have no further questions.

Mr. WALGREN. Thank you, Mr. Brown. Let me just quickly ask for a response on problems employing new technology. Have you experienced difficulty as a government agency bringing on technology that you had—feel would be very helpful?

Mr. KENNICKELL. No, sir, that's an evolutionary process predating me—I can think of the changeover GPO went from the old hot-metal method of setting type into what is considered now one of the most sophisticated typesetting operations in the world. I understand that was accomplished very smoothly, compared to what could have happened. And that GPO, right now, is very accommodating toward introduction of new technologies. We offer new technological services to Congress. In fact, there are several committees in Congress that utilize our dial-up composition system, which essentially they can transmit data to us over telephone lines that goes through our typesetting system, flies back out the other end, is printed out on a laser printer, and they get this done for about forty cents a page, where it was costing, I believe, $15-$20 a page, utilizing the traditional methods.

Mr. WALGREN. But it's often said that since government tends to try to save money, and save money on its own operations, the first thing it saves is the investment in the machines and the like, that would make themselves more efficient. If you look at your range of responsibilities, would you say that effort is being conducted with the most up-to-date equipment, or is it being conducted with something that would leave something to be desired?

Mr. KENNICKELL. I'm very pleased with where we are right now; in fact, I recently have proposed to the oversight committee a capital expenditure budget to include the replacement of the main web presses in GPO, and I expect to expend somewhere in excess of $26 million within the next, probably, 18 months. And that's a total rehab of the main printing components within GPO. That's bringing us up to date. We have recently installed a multi-million dollar passport and postcard production operation, totally computerized, with new equipment. I tell you, sir, I'm not having any problem with the introduction of new technologies, and I might add that these capital expenditures are not being made as a result of coming to Congress and asking for specific appropriations. The GPO functions off of a revolving fund. And I've been able to fund all of the GPO capital expenditures out of the revolving fund.

Mr. Walgren. And those revenues come from sales?

Mr. Kennickell. Absolutely, sir.

Mr. Walgren. So you've needed no appropriations, as such, for your capital plant.

Mr. Kennickell. Correct, sir. What we do is, that we only ask Congress for an appropriation to accommodate the printing requirements of Congress. And I might add, I have been able to reduce those appropriation requests voluntarily, three years in a row.

Mr. Walgren. So if NTIS had a revolving fund, maybe they might do as well?

Mr. Kennickell. Maybe. But I don't think the revolving fund concept is what would make the difference in NTIS's life.

Mr. Walgren. What would?

Mr. Kennickell. I think that, as I indicated earlier, is that information is our business, and that I would say that NTIS might feel more at home, being part of the Superintendent of Documents operation, and taking advantage of all the services and marketing functions and things that I have available right now. I consider it a marketing function problem.

Mr. Walgren. You mentioned the effort of marketing of the bookstores. What other private sector marketing efforts—do you have joint ventures, do you have anything that—other involvements of the private sector, in your marketing effort? I gather you print in the private sector, but what other kinds of things do you do in the private sector? Or is that a Government effort on the marketing side, completely? I gather it's Government at that point.

Mr. Kennickell.[46] Would you like to answer that one?

Mr. Fossedal. Would you repeat the question, Mr. Chairman?

Mr. Walgren. In trying to weigh the adequacy of the Government effort in marketing, the question would be: Does GPO work through any cooperative, private sector marketing efforts, as opposed to the printing side? You've mentioned the printing side; that you do privately. Do you do any marketing privately?

Mr. Fossedal. Well, basically, the only private sector involvement would be the book-chains that purchase publications from us. The marketing by GPO is in the form of public service announcements. We do not go out and buy time. In 1982 we produced commercials. In 1982 and 1983 we produced them internally, and got them on all the networks and over 800 radio and television stations. I am reluctant to say a figure; between $5–15 million in free time. The reason that I don't want to be more definitive is because it is very difficult to get information from the media, as to how often they played your material. They're very happy to say yes, we ran your commercials. But when you go back to them and say "when did you run them and how much was that time worth," they say, "hey, hey, come on. That would cost us a lot of money."

---

[46] Mr. Kennickell wished to indicate that he was speaking to the Superintendent of Documents here.

But suffice to say, we've gotten a lot of free time since then. Last year we went out, and this was a private sector involvement, we did go out for a bid and hired an advertising agency out of Richmond, Virginia, and they produced several commercials, television and radio, that are on the air right now.

For example, I know we've had several prime time commercials on CBS and NBC, some late fringe, some early fringe. We've been on cable all over the place, but to tell you exactly how much, we don't know it now. What these commercials do is promote our free catalogue which comes out four times a year—well, it will be three times a year. And in this catalogue, called "US Government Books," people then know about the thousand best sellers in the Government Printing Office. We have other catalogues and other promotional materials. In fact, I invited your staff person over here,[47] and he said he's going to come over and visit the GPO and the Superintendent of Documents, spend the day over there. And I know he'll be impressed and thrilled at what we're doing. And I know he'd bring that back to you and Mr. Brown, and give us a very good plug, so I hope he's able to make it.

Mr. **WALGREN**. Well, we're really pleased that as government organizations, you can have such success, even to the point of producing your own television and radio, and having that be successful public service campaigns. Well, on behalf of the Committee we appreciate your testimony, and we'll look forward to talking with you at other forums about this area, and hope that we can support each other.

Mr. **KENNICKELL**. Thank you, Mr. Chairman.

Mr. **WALGREN**. The next witness, Mr. James Peirce, the National President of the National Federation of Federal Employees, accompanied by Beth Moten and Steven Kreisberg. If you folks would come forward, we would be happy to hear you.

STATEMENTS OF JAMES PEIRCE, NATIONAL PRESIDENT, NATIONAL FEDERATION OF FEDERAL EMPLOYEES, WASHINGTON, DC, ACCOMPANIED BY MS. BETH MOTEN, LEGISLATIVE DIRECTOR, AND STEVEN KREISBERG, FIELD DIRECTOR

Mr. **WALGREN**. Welcome to the Committee, Mr. Peirce. We are glad you are here. We appreciate your interest in this.

Your written statement will be made part of the record without more, but please feel free to emphasize the points that you'd like to leave heavily in the mind of those who read the oral part of the transcript and raise the points that deserve to be underscored.

Mr. **PEIRCE**. Thank you, Mr. Chairman.

Is this on?

Mr. **WALGREN**. There you go.

Mr. **PEIRCE**. Thank you, Mr. Chairman. I'll briefly summarize.

On behalf of the National Federation of Federal Employees, which represents over 150,000 Federal workers across the nation including the employees at the National Technical Information Center in Springfield, Virginia—I appreciate the opportunity to discuss our views on the issues of privatization of Federal functions in general, and of NTIS in particular.

---

[47] Mr. Fossedal refers to James Paul, a professional staff member of the Committee on Science, Space, and Technology.

NFFE has long been concerned about the serious problems with the management and control of contracting procedures, along with the repercussion of such problems on the Federal workforce.

Despite the existence of the Office of Management and Budget [OMB] Circular A-76,[48] which establishes guidelines for contracting out commercial and industrial-type activities, the procedures involved in converting these functions to the private sector are consistently abused and ignored.

Yet, in some aspects, the theory behind Circular A-76 is reasonable. Under the guidelines, a cost study is first performed on the function, then the in-house operation is assessed for efficiency. Later, the in-house operation is streamlined to achieve the most efficient organization [MEO]. The in-house MEO, as we call it, is then compared to bids from outside contractors, and the lowest bidder is awarded the contract.

Unfortunately, when a private contractor is able to perform a function less expensively, it is usually because he has lowered the wages and benefits of the workers in order to compensate the shareholders of the corporation.

Mr. Chairman, despite our concerns about the A-76 program, NFFE recognizes that most taxpayers want Government service to be performed, whether by Government personnel or private employees, in the least expensive manner possible as long as quality is maintained.

Contrary to this principle, however, is the Administration's current plan to privatize the National Technical Information Service. The Administration does not seem to be particularly concerned about the cost of performing the information function, but rather wants to privatize for the sake of privatization.

OMB does not want Government to compete with the private sector. Thus, they argue, NTIS should be contracted out.

The Administration has decided to employ the new, as yet untried, FED CO-OP [49] proposal in privatizing NTIS. One of the most disturbing prospects of the FED CO-OP approach is the fact that the Administration has not introduced legislation to implement the proposal. As a result, no hearings have been held to debate the positive and negative aspects of such an idea.

NFFE believes that the current FED CO-OP proposal is underdeveloped and poorly planned. We do not understand why the Administration believes that Federal workers will rally behind such an idea when their employment would only be guaranteed for six months after the takeover of the function by the contractor.

Furthermore, Mr. Chairman, the idea of wages and benefits for the workers is not addressed in the proposal for FED CO-OP. The proposal's assumption that the private company would perform the function at a 30 percent savings, an assumption that we believe is inflated, must automatically provide a lower standard of living for the former Federal workers.

---

[48] Executive Office of the President, Office of Management and Budget, Circular A-76 (Revised), "Performance of Commercial Activities," 4 August 1983.

[49] Federal Employee Direct Corporate Ownership Opportunity Plan.

It is impossible for NFFE, as a labor organization representing Federal employees, to support any contracting-out proposal destined to leave the workers in even worse economic shape than they are currently in.

Moreover, FED CO-OP does not benefit the other two major parties affected by the privatization. Taxpayers would be hurt since financial savings is not a goal. Even if a contractor were able to perform the information function at NTIS for less money, we would expect the contractor to be less responsive to clients utilizing the service.

Finally, the FED CO-OP would not be as attractive to private contractors, since it demands certain corporate policies that major companies may not be inclined to implement.

I would like to comment briefly regarding the legislation, H.R. 2159, which has been introduced to create a U.S. corporation from the National Technical Information Service—NFFE has experienced such transformations with other activities where we represent employees.

In making such a change, the legislation should specifically address the provisions of Title 5, U.S. Code, which provide for the pay, life insurance, retirement, health benefits, adverse action, and performance-based appeal rights, and collective bargaining rights of Federal workers. NFFE can support legislation such as H.R. 2159 if technical amendments are attached which protect the *status quo* of the Federal workers.

In addition, I have a few comments on H.R. 1615, which would transfer NTIS and the information functions of other Federal agencies to a newly-established Government Information Agency. Virtually every Federal agency distributes information that could be considered to enhance the economic, scientific, and technical position of the United States.

We are particularly concerned that OMB would be granted the authority to determine which functions of these agencies would be added to the new GIA.

If Congress wants to put certain existing agencies under a single entity, we suggest that the legislation be specific about which agencies should be consolidated.

In summary, Mr. Chairman, the National Federation of Federal Employees opposes the Administration's plans to contract out the National Technical Information Service through the FED CO-OP proposal. We appreciate the Committee's ban on the contracting out of NTIS included in H.R. 2160,[50] and we look forward to working with the Committee to protect this important Government information activity, and the employees charged with performing the function.

That concludes my oral statement. I will be happy to address any questions, Mr. Chairman.

[The prepared statement of Mr. Peirce follows:]

---

[50] National Bureau of Standards Authorization Act for Fiscal Year 1988.

NATIONAL
FEDERATION
OF FEDERAL
EMPLOYEES

NFFE

1016 16th St., N.W.
WASHINGTON, DC
20036
(202) 862-4400

STATEMENT BY

THE NATIONAL FEDERATION OF FEDERAL EMPLOYEES

BEFORE

THE SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

ON

THE PRIVATIZATION OF THE NATIONAL TECHNICAL INFORMATION SERVICE

JULY 15, 1987

Mr. Chairman and Subcommittee Members:

On behalf of the National Federation of Federal Employees, which represents over 150,000 Federal workers across the nation, including the employees at the National Technical Information Service in Springfield, Virginia, I appreciate the opportunity to discuss our views on the issue of privatization of Federal functions in general, and of NTIS in particular.

NFFE has long been concerned about the serious problems with the management and control of contracting procedures along with the repercussion of such problems on the Federal workforce. During the last six years, the Administration has been quite open about giving private industry a large slice of the Federal budget. While the exact cost of service-oriented contracts is not known, we estimate that at least $60 billion in Federal funds finds its way to private contractors each year. Yet, instead of tightening the oversight and control of such a large proportion of the Federal budget, the Administration has encouraged more contracting out.

Despite the existence of the Office of Management and Budget Circular A-76, which establishes guidelines for contracting out commercial and industrial-type activities, the procedures involved in converting these functions to the private sector are constantly abused and ignored. The results are cost overruns, shoddy workmanship, sole source contracts, and a waste of taxpayer dollars.

Yet in some repects, the theory behind Circular A-76 is reasonable. Under the guidelines, a cost study is first performed on the function, then the in-house operation is assessed for efficiency. Later the in-house operation is streamlined to achieve the Most Efficient Organization. The in-house MEO is then compared to bids from outside contractors, and the lowest bidder is awarded the contract.

Unfortunately, when a private contractor is able to perform a function less expensively, it is usually because he has lowered the wages and benefits of the workers in order to compensate the shareholders of the corporation. And if the workers receive lower wages and benefits, the quality of performing the function simply cannot be guaranteed.

In addition, NFFE Locals frequently experience problems with the inaccurate manner in which the A-76 cost studies are performed. Frequently, the performance work statements which reflect the amount of work to be done are inaccurate and incomplete. As a result, contractors' bids are undervalued, and the performance of the function under contract is less reliable.

Interestingly enough, NTIS has made two recent attempts to contract out functions at the facility. In early 1985, the Information Analysis Division underwent an A-76 cost study, but the in-house bid was $1,000,000 lower than the lowest contractor's bid. At the same time, an A-76 study being performed on the Warehouse Division showed the in-house operation could provide the service for $680,000 less than the lowest contractor's bid. Apparently, these recent exercises have not convinced the Administration that NTIS functions efficiently as it is currently structured.

Mr. Chairman, despite our concerns about the A-76 program, NFFE recognizes that most taxpayers want government services to be performed, whether by government personnel or private employees, in the least expensive manner possible as long as quality is maintained.

Contrary to this principle, however, is the Administration's current plan to privatize the National Technical Information Service. The Administration does not seem to be particularly concerned about the cost of performing the information function, but rather wants to privatize for the sake of privatization. The Office of Management and Budget, in recent telephone conversations with NFFE staff, indicated that saving money for this project was irrelevant. Rather, OMB does not want government to compete with the private sector. Thus, they argue, NTIS should be contracted out.

The Administration's goal of contracting out Federal functions only to prevent the government from somehow competing with the private sector strikes NFFE as ludicrous. Furthermore, we believe that the American taxpayers care more about saving money than they do about adhering to this Administration's doctrine of privatization.

But since the Circular A-76 method of contracting out demands that the private sector bid be less expensive than the in-house bid, the Administration has decided to employ the new, as-yet-untried FED CO-OP proposal in privatizing NTIS. One of the most disturbing prospects of the FED CO-OP approach is the fact that the Administration has not introduced legislation to implement the proposal. As a result, no hearings have been held to debate the positive and negative aspects of such an idea.

Nevertheless, the FED CO-OP documents briefly discuss the cost comparison process, claiming that this process is quite similar to the cost comparison process of A-76. However, under FED CO-OP, the in-house operation is not permitted to streamline before bidding, thus making it even more difficult for in-house operations to win contracts. With such a bias built into the FED CO-OP proposal, and a dogmatic Administration preference for the private sector, it would be virtually impossible to maintain government performance of a function under FED CO-OP.

Frankly, NFFE questions the legality of the Administration's attempts to move forward with FED CO-OP in the absence of legislative action. Yet in its most recent three-page memorandum explaining the concept of FED CO-OP, the Office of Personnel Management acknowledges that certain changes would have to be made through legislation in order to enhance the attractiveness of FED CO-OP.

First, current law would have to be changed to restructure the allocation of stock through an Employee Stock Ownership Plan (ESOP), as would be established in a FED CO-OP situation. Secondly, conflict of interest laws currently would prohibit the distribution of shares of stock to employees in the new company based on years of government service. Finally, Federal employees cannot currently participate in FED CO-OP negotiations. Yet, despite these critical flaws in the proposal, the Administration has not requested the introduction of any legislation to correct them.

NFFE believes that the current FED CO-OP proposal is underdeveloped and poorly planned. We do not understand why the Administration believes that Federal workers will rally behind such an idea when their employment would only be guaranteed for six months after the takeover of the function by the contractor. In addition, an individual's time in service with the Federal government would be lost along with his or her retirement annuity.

Furthermore, Mr. Chairman, the issue of wages and benefits for the workers is not addressed in the proposal for FED CO-OP. The proposal's assumption that the private company would perform the function at a thirty percent savings (an assumption we believe is inflated) must automatically provide a lower standard of living for the former Federal workers. It is impossible for NFFE, as a labor union representing Federal employees, to support any contracting out proposal destined to leave the workers in even worse economic shape than they are currently in. (Contrary to this Administration's views, Federal pay lags behind the private sector approximately 25%, and Federal benefits are considered only equal in comparison with private sector benefits.)

Moreover, FED CO-OP does not benefit the other two major parties affected by privatization. Taxpayers would be hurt since financial savings is not a goal. Even if a contractor were able to perform the information function at NTIS for less money, we would expect the contractor to be less responsive to clients utilizing the service. Corporate loyalty is primarily related to profits and corporate hierarchy, not to public policy, the Administration, and Congress.

Finally, FED CO-OP would not be as attractive to private contractors, since it demands certain corporate policies that major companies may not be inclined to implement. Small and minority owned businesses would generally be eliminated from competing for the function since most do not trade stock on the open market. If stock is not traded on the open market, there is no objective manner in which to assess the value of the stock. Moreover, the requirement of offering at least six months employment to displaced Federal workers would be a disincentive to contractors, especially when coupled with the requirement to pay the equivalent of one-eighth of an employee's salary if the worker is laid off after that period.

In short, Mr. Chairman, NFFE is opposed to the contracting out of the National Technical Information Service through the FED CO-OP proposal. We believe the plan is underdeveloped, and would not benefit the taxpayers, contractors, or the Federal employees. Furthermore, since recent A-76 studies have shown that the government personnel can perform the function more efficiently than the private sector, we oppose the contracting out of NTIS under A-76.

I would like to comment briefly regarding the legislation (H.R. 2159) which has been introduced to create a U.S. corporation from the National Technical Information Service. NFFE has experienced such transformations with other activities where we represent employees. In some cases, the change has been effected for political reasons, and the Congressional intent was not to change the manner in which Federal workers were paid, received benefits, or collectively bargained over working conditions.

In making such a change, the legislation should specifically address the provisions of Title 5, U.S. Code, which provide for the pay, life insurance, retirement, health benefits, adverse action and performance-based appeal rights, and collective bargaining rights of Federal workers. NFFE can support legislation such as H.R. 2159 if technical amendments are attached which protect the status quo of the Federal workers. NFFE is certainly willing to work with the Subcommittee to ensure that Federal workers at NTIS would be protected if such legislation were enacted.

In addition, I have a few comments on H.R. 1615, which would transfer NTIS and the information functions of any other Federal agency to a newly established Government Information Agency. Virtually every Federal agency distributes information that could be considered to enhance the economic, scientific, and technical position of the United States. We are particularly concerned that OMB would be granted the authority to determine which functions of these agencies would be added to the new GIA.

Certainly during this Administration, OMB has been guided far more by ideological concerns than by the efficiency and effectiveness of public service. If OMB is permitted to decide which agencies should be consolidated into GIA, the selections would likely be made for political rather than practical reasons. If Congress wants to put certain existing agencies under a single entity, we suggest that the legislation be specific about which agencies should be consolidated. In addition, under the current language of the bill, customers could in the future have to pay for information which is now available free of charge.

In summary, Mr. Chairman, the National Federation of Federal Employees opposes the Administration's plans to contract out the National Technical Information Service through the FED CO-OP proposal. We appreciate the committee's ban on the contracting out of NTIS included in H.R. 2160, and we look forward to working with the committee to protect this important government information activity, and the employees charged with performing the function.

That concludes my statement. I will be happy to answer any questions.

2 1

Mr. Walgren. Well, thank you very much, Mr. Peirce.

The Administration's thrust to contract this function out or to change its method of operating and privatize it is something that is a puzzle, somewhat, to us, because we have traditionally come to believe that library services are something that generally is not done in the private sector, simply because it is a pure service and one that does not necessarily respond to our cost accounting at every point along the line—and I know in our communities, we have public libraries. We don't have private libraries; we have public libraries.

And just on that basis, it seemed to raise a lot of red flags with a lot of Members of Congress, as something that was more philosophical on their part than economic, and certainly the testimony of the Government Printing Office that they are having no problems marketing their product, and being the state of the art in doing so, would indicate that the argument that just because there are losses, that's why you do that, it is not inherent in government-operated entities—that they don't maximize their circumstances.

You indicate in your statement that this is philosophy on their part, and yet the procedure for contracting out doesn't take account of that philosophy, does it?

Now, we're to contract out based on true cost, and pure economic considerations, and not on whether or not someone wants it conducted in the private sector or the public sector.

Mr. Peirce. No, Circular A-76 does it.[51]

As a matter of fact, there's many factors, we believe, that Circular A-76 does not address: quality, responsiveness. Circular A-76 strictly is a number one—if it's accomplished by the book, then it's strictly a cost exercise—period.

There is nothing involved, really, in the study itself that's going to indicate what kind of quality you are going to achieve as a result of whichever you go with.

That is strictly something that is going to be subjective on the part of those that decide the particular issue.

I might say also: I think that, as the previous witness testified—there are two things I would like to say about that. One is I think that, number one, management at the level of the functions being performed, ofttimes may be laboring under a mission-oriented goal or objective that may not be fully defined to the extent—let's say, marketing. This is what we expect, and so forth.

We find this true in many, many cases. The mission *per se* is somewhat fogged, and I think that this is something that we need to look at clear across the board. I think with some of the things that have been going on today, it should be fairly apparent to us that we need a little more specificity, maybe, when we are talking about what is to be done, and even to the extent of methodology aligned with ideology, as far as that's concerned.

Mr. Walgren. In their proposal for this FED CO-OP, you indicate that the in-house operation does not permit it to streamline before the bidding, so they're really not dealing with cost factors here at all, at least in the——

---

[51] Mr. Peirce revised his response to elaborate: "No, Circular A-76 doesn't advocate privatization for the sake of privatization, but rather only for reasons of cost efficiency."

Mr. Peirce. In the FED CO-OP side of it.

Mr. Walgren. Devaluative sense.

Mr. Peirce. Yes.

Mr. Walgren. And so the idea that they are going to get some cost advantages out of this is an area that they really have not given very much attention to, and haven't really made any accurate evaluations of.

Is that correct?

Mr. Peirce. That's our belief. As we indicated, the whole FED CO-OP idea is rather foggy.

Mr. Walgren. Have they clarified it any further?

I understand there have been some meetings lately and yesterday. Supposedly, there were discussions that you folks participated in. Have you learned anything of interest to the general public and us as a Committee in this area from those meetings?

Mr. Peirce. Well, I'll refer this to my two colleagues.

Mr. Kreisberg. Mr. Chairman, I was at the—there was one meeting yesterday afternoon at four o'clock that lasted about an hour. Representatives from Commerce were there; representatives of NTIS were there; representatives of OPM [Office of Personnel Management] and OMB were also there; as were certain members of the NFFE staff.

What we discovered at that meeting was really nothing new, other than the fact that even the Administration, the people behind this proposal, really don't know where it's leading.

There are some obviously gaping holes in the whole FED CO-OP concept, especially as it applies to NTIS. If you look at NTIS, it is, in some cases, a money-making enterprise for the Federal Government.

I believe we have heard testimony this morning that seven times in the last eleven years it was money-making. I mean, the reverse of that is that it has lost money in four out of the last eleven years.

That's something that we have to look at. This year, they are looking at a three-quarter million dollar surplus. Now, the Administration seems awfully eager to give that away. I don't know why. That's something that, I guess, gets back to ideology again—philosophy. They believe that there is a competition here with the private sector which, frankly, we don't see.

But their FED CO-OP proposal then works in reverse here. The Government will not be saving money. It's a decision for privatization, for the sake of privatization, not for the sake of saving the taxpayers a little bit of money.

There is no goal here of helping making meet the Gramm-Rudman-Hollings targets.[52] There is no consideration of that at all.

The only consideration here is to get it out into the private sector—corporate welfare, if you will. Let's see if we can give a little more money to the corporations of the country as opposed to keeping this function in-house, "in-house" meaning inside the Government.

---

[52] The Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) required annual reductions of $36 billion in the budget deficit,with a goal of balancing the budget in Fiscal Year 1991. The law was sponsored by Senators Phil Gramm of Texas, Warren Rudman of New Hampshire and Ernest Hollings of South Carolina; the "targets" represent the intermediate deficit levels defined by the law.

We don't see where they're saving the money; we approached that in a number of different points. The FED CO-OP proposal that they've got now, they don't even know how they'll fund the employees' stock option plan—which is the whole FED CO-OP concept.

I don't know how in-depth they went into the concept with you. I can do that for you if you want us to give you a quick five-minute course on it, or I'll leave it up to you on that.

But part and parcel of this is a prefunded employee stock ownership plan that is funded by the contractor with money that they received from the Government, and that money that they received from the Government is supposed to represent half of the Government's savings.

Well, in the NTIS environment, there is no savings; so, how do we fund this plan? How do we fund the stock option plan? It becomes very difficult.

So, we don't really see where they are going with it, and when we press them on the point, they won't admit it but they know they don't know where they are going with it.

It seems to us to be a way of trying to minimize opposition to the privatization effort. I think that's the primary goal as it affects NTIS.

Mr. **Walgren**. If it's to be taken over by an entity that has public stock, is that to be public stock of a larger corporation or a separate entity at this point?

Mr. **Kreisberg**. Ostensibly, it should be public stock of a larger entity. That's what they prefer. Contractor X is going to create a subsidiary that will operate NTIS, but the employee stock ownership plan will be within company X, so the stock will be held with a larger company, the parent corporation.

But we've got a problem there: many Government contractors—I would hazard a guess, well over half—do not trade stock publicly, do not on any of the exchanges. They are either minority-owned businesses, small businesses, or just businesses that don't trade stock—privately held in one way or another.

How do you assess the value of that stock? An employee is supposed to get some value of stock. If we are going to rely on financial analysts to tell us what the value is, that's a very risky proposition for an employee.

All you are getting are pieces of paper that says five shares of stock. No one really knows the true value. If we knew the true value, 120 million shares of stock would not have been exchanged yesterday on the New York Exchange. Everyone would know what the value is, and no one would sell, and no one would buy because we would all know what the value is.

The problem is you don't know the value; only the market can determine the value of the stock.

Mr. **Walgren**. You indicate that there's some question as to how they can go forward totally on their own, and they seem to be making noises in that direction by their request for interest and the like; and, yet, you say that the Office of Personnel Management has acknowledged that certain changes would have to be made through legislation in order to implement this, particularly the FED CO-OP aspect.

Do they have the power to go ahead and do this on their own?

Mr. **Peirce**. We don't believe they do, Mr. Chairman.

I guess that's a question within a debatable area, but it seems to us that there needs to be legislation to effect this type of an operation.

Mr. **Kreisberg**. But they did make a positive statement yesterday at the meeting that they can go ahead and do it, so, again, we're—

OPM, on the one hand, has produced literature that says some legislative changes would be required. On the other hand, at yesterday's meeting, they are telling us they can go ahead, that OMB can basically write a waiver to the A-76 guidelines and put it in place that way through an administrative fiat.

Ms. **Moten**. Mr. Chairman, I would like to add that OPM did say yesterday that they have no intention of moving ahead with these legislative changes which they think might enhance the FED CO-OP proposal until they have conducted a series of pilot projects.

So, we're not expecting them to go to Post Office and Civil Service anytime in the near future; and yet, in the interim, pilot projects which they are conducting are not going to be particularly beneficial to either the contractors or the employees.

Mr. **Walgren**. I see.

Well, let me recognize the gentleman from California, and perhaps ask if he wouldn't be able to take the chair at this point, if I could meet another commitment.

We appreciate your contribution to this, and I will yield to the gentleman from California.

Mr. **Brown**. I just have one question now.

Mr. Peirce, you referred to a couple of A-76 studies done in 1985, which you said indicated that there was no cost saving.

Would it be possible for the Committee to get copies of those studies?

Mr. **Peirce**. Yes.

Mr. **Brown**. Do you have them available? Can you provide them?

Mr. **Peirce**. Yes.

Mr. **Brown**. Yes.

[The requested material follows:]

National Federation of Federal Employees

NFFE

James M. Peirce • President
Abraham Orlofsky • Secretary Treasurer

In reply refer to HR-BM-701753

July 20, 1987

The Honorable Doug Walgren
Chairman, Subcommittee on Science, Research and Technology
House Committee on Science, Space and Technology
2319 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Walgren,

In response to the request of Representative George Brown at the July 15, 1987 hearing on the National Technical Information Service, I am pleased to provide information relative to the NTIS A-76 studies which took place in 1985. I am enclosing a copy of the letter dated February 28, 1985 which was written to Robena Brown, President of NFFE Local 1627. This letter refers to the Information Analysis study in which the in-house cost was $1,042,553 less expensive than the lowest contractor's bid.

The second A-76 study which we referred to in our testimony was performed on the Warehouse function (also called Storage and Distribution). The results of that study were not made available by letter to the Local president at that time, but were divulged orally by NTIS management in a meeting with Local officials. However, Ms. Brown is currently requesting documentation from management on the matter, and will send it to NFFE Headquarters as soon as she is able to obtain it. If she is unsuccessful, I would recommend that the Subcommittee contact NTIS management for the corresponding documents.

I hope that this information will be of some assistance to Representative Brown and the Committee. If you have any questions, please contact NFFE's Legislative Director Beth Moten at (202) 862-4445.

Sincerely,

James M. Peirce
President

1016 16th Street, NW Washington DC 20036 Phone (202) 862-4400

NFFE National Vice Presidents
Region 1 Georgiana Kachura Huntington NY
Region 2 Robert E. Estep Jr. Chambersburg PA
Region 3 A. B. Reynolds Panama City Fl
Region 4 Richard E. Reiman Terlton OK
Region 5 William P. Davis Parker AZ
Region 6 Gene Needham Port Hueneme CA
Region 7 Charles Shelton Sitka AK
Region 8 Jan Lambert Kansas City MO
Region 9 Sheila Velazco Muncie IN

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Administration
Washington, D.C. 20230

February 28, 1985

National Technical Information Service
5285 Port Royal Road
Forbes Building, Room 307
Springfield, Virginia 22161

ATTENTION: Robena J. Brown

SUBJECT: Notice of Determination to Retain In-House Information Analysis Function, NTIS

Dear Ms. Brown:

You are hereby advised that the National Technical Information Service has concluded its cost comparison study pursuant to OMB Circular No. A-76 for the Information Analysis function and has determined that the activity should be retained in-house.

The contractor whose proposal would have been most advantageous to the Government is Access Innovations, Inc., Albuquerque, New Mexico. The proposal price for the base year is $681,126.00, for the first option year is $708,472.00 and for the second option year is $737,090.00. The results of the cost comparison indicate that the estimated cost of contracting out exceeds by $1,042,553.00 the estimated cost of in-house performance for a three-year period.

Interested parties may obtain copies of the completed Cost Comparison Form with its supporting documentation and the Cost Comparison Handbook from the Contracting Officer named below.

Directly affected parties whose interests are adversely affected by this decision may submit an administrative appeal directly to the Assistant Secretary for Administration of the Department of Commerce, whose decision shall be final. A copy of the appeal should also be mailed to the contracting officer.

Appeals must be submitted in writing and must (1) address specific line items on the Cost Comparison Form; (2) set forth the rationale for questioning these items; and (3) demonstrate that the result of the appeal may change the cost comparison decision. Each point of issue should be numbered, underlined, and followed by a supporting statement.

Unless an extension in writing is granted by the Assistant Secretary for Administration, an appeal must be received by the Assistant Secretary for Administration no later than 5:00 p.m. local time on March 25, 1985. If more time is required to submit a complete appeal, the appellant should submit a notice of intent to appeal to the Assistant Secretary for Administration. The notice of intent to appeal must be received by 5:00 p.m. local time on March 18, 1985 and must contain a statement of the basis (or bases) for the appeal and the reasons why a complete appeal cannot be submitted in the specified time. If a timely notice of an intent to appeal has been submitted, the Assistant Secretary for Administration may grant the appellant an extension, not in excess of fifteen (15) working days, for submitting an appeal. An appeal received after the due date, including any extension thereof, will not be considered. Supporting documentation submitted after the due date will be considered only if deemed appropriate by the Assistant Secretary for Administration. There will be no meeting held with appellants.

The address for Assistant Secretary for Administration is:

Katherine M. Bulow
Assistant Secretary for Administration
U.S. Department of Commerce
Herbert C. Hoover Building, Room 5830
14th and Constitution Avenue, N.W.
Washington, D.C. 20230

Subject: A-76 Appeal

The address for the contracting officer is:

Andris Karlsons
Contracting Officer
General Procurement Division
U.S. Department of Commerce
Herbert C. Hoover Building, Room 6516
Washington, D.C. 20230

Sincerely,

Andris Karlsons

Andris Karlsons
Contracting Officer

Mr. **Walgren**. I'll tell you what, I will call the next panel, and then perhaps in the interim I will have to slip away and Mr. Brown will carry on.

The next panel is related to international scientific and technical information. The Honorable John—and is it Negroponte? Is that how you say it?

Ambassador **Negroponte**. Negroponte.

Mr. **Walgren**. Assistant Secretary for Oceans and International Environmental and Scientific Affairs, for the State Department.

Dr. Joseph Clark, the Deputy Director of the National Technical Information Service.

Dr. John Moore, the Deputy Director of the National Science Foundation.

And Joseph Coyne, the Manager for Scientific and Technical Information of the Technical Information Service of the Department of Energy.

Mr. **Brown** [presiding]. Gentlemen, we appreciate your being here, and I am sure you all recognize the high importance which this Committee, and I think increasingly the Congress, gives to the subject of how well we are managing the collection and dissemination of the foreign—our international science and technology information.

We won't belabor it too much this morning. In other words, we'll try and get you out of here before lunch, but we want the record to reflect the work that you are doing, and appreciate your willingness to be here and discuss the program with us.

Do you want to start, Ambassador Negroponte?

STATEMENTS OF HON. JOHN NEGROPONTE, ASSISTANT SECRETARY FOR OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, DEPARTMENT OF STATE, WASHINGTON, DC; DR. JOSEPH CLARK, DEPUTY DIRECTOR, NATIONAL TECHNICAL INFORMATION SERVICE, DEPARTMENT OF COMMERCE, WASHINGTON, DC; DR. JOHN MOORE, DEPUTY DIRECTOR, NATIONAL SCIENCE FOUNDATION, WASHINGTON, DC; AND JOSEPH COYNE, MANAGER, SCIENTIFIC AND TECHNICAL INFORMATION, TECHNICAL INFORMATION SERVICE, DEPARTMENT OF ENERGY, OAK RIDGE, TN

Ambassador **Negroponte**. Thank you, Mr. Chairman.

I have a prepared statement, which I have already submitted for the record. If I could make a few brief oral remarks.

I am pleased to have this opportunity to testify on the State Department's activities with respect to the implementation of Executive Order 12591, entitled "Facilitating Access to Science and Technology."

Section 4(b) of that Order deals with the recruitment of science and technology personnel, and section 4(c), which you have asked me to address today, calls for the development of a "central mechanism for the prompt and efficient dissemination of science and technology information developed abroad."

Mr. Chairman, the Department of State and the Foreign Service of the United States are firmly committed to ensuring access to foreign S&T developments. In implementing this section of the Executive Order in question, we are working closely with the Department of Commerce, the National Science Foundation, and other key segments of the science community, and with various offices in the State Department, to ensure that our resources are put to the best possible use, and that the myriad international activities of American business and our learned societies are not duplicated.

To that end, the State Department is cooperating closely with the Commerce Department and the National Science Foundation in a study to establish reporting priorities. The study is designed to determine, by country, which fields of foreign science and technology activity are of most importance to domestic users.

We expect it to give us the necessary information to implement a pilot project at the beginning of the 1988 fiscal year, which will, in turn, provide us with the experience and information we require to undertake a full-scale program.

Through direct interaction with the American science and technology community, the pilot program will allow us to further sharpen taskings to our overseas reporting officers.

Equally important, it will provide us with valuable hands-on experience in the actual operation of an interactive system involving numerous disciplines and hundreds of researchers.

The need for priorities in our reporting and dissemination activities is evident when we consider that, in Japan alone, there are an estimated 10,000 scientific journals.

Fortunately, the State Department is not alone in shouldering reporting requirements. Other departments and agencies also have assigned science and technology personnel overseas.

The Office of Naval Research has highly qualified personnel at its branch offices in London and Tokyo. Science and technology personnel from other military services are located in a number of countries, as are representatives of various civilian agencies, including the Departments of Commerce and Energy, the National Science Foundation, and the National Aeronautics and Space Administration.

Several ambassadors have followed the example of our embassies in New Delhi and Tokyo in establishing Embassy Science Councils that regularly review the focus of science and technology reporting, and coordinate the activities of the various U.S. Government S&T representatives.

The importance of this function can be seen in the fact that the entities represented in the Tokyo Science Council submit several hundred S&T reports annually.

Mr. Chairman, I wish to bring to your attention one area where we already have tasked selected embassies for reporting, and have established a mechanism to ensure effective and efficient dissemination of the product. I refer to superconducting materials.

In cooperation with the Department of Energy, we instructed S&T officers on the importance of reporting on this rapidly developing field.

We also created a direct link with the Ames Research Center at Iowa State University, which is publishing a periodic abstract of papers and other information related to superconducting materials.

All of our unclassified reporting on the subject is being sent directly to Ames and thereby made immediately available to several hundred researchers through a newsletter and, electronically, through the DOE Superconductivity Information System operated by the Office of Scientific and Technical Information located in Oak Ridge, Tennessee.

I am pleased that we have been able to move rapidly in the field of superconductivity. At the same time, I want to be honest in acknowledging that in some other S&T fields the priorities are not nearly so clear and the vehicles for diffusing unclassified reporting are less obvious.

However, we will continue to build on experience and to broaden the range of our endeavors in cooperation with the NSF and the Department of Commerce.

One other related point that I am sure the committee will appreciate is the fact that the process of tasking, reporting, analyzing, and disseminating information on foreign S&T developments requires resources.

We are currently reviewing budgetary impacts, but there is no denying that the severe cuts imposed by Congress in the State Department budget request will hamper our efforts.

I urge Committee members to support a foreign affairs budget that will permit us to continue vital ongoing programs and an opportunity for initiating promising new programs as reflected in the President's budget.

Mr. Chairman, section 4(b) of the Executive Order calls on the Secretary of State to develop a policy to encourage qualified scientists and engineers from other Federal agencies, academia, and industry, to apply for assignment in our embassies.

The State Department's activities with respect to the implementation of that section are covered in my written testimony.

In closing, let me reiterate our Department's strong commitment to carrying out the President's desire to strengthen our competitiveness through science and technology.

In cooperation with the other interested agencies, we are well-launched in that process.

Thank you very much, and I would be pleased to answer any questions you may have now or later.

[The prepared statement of Ambassador Negroponte follows:]

Mr. Brown. Thank you very much, Mr. Negroponte.

Testimony
of
John D. Negroponte
Assistant Secretary of State
for
Oceans and International Environmental and Scientific Affairs
before the
Subcommittee on Science, Research and Technology
July 15, 1987

Mr. Chairman, I am pleased to have this opportunity to testify on the State Department's activities with respect to the implementation of Executive Order 12591 -- "Facilitating Access to Science and Technology." Section 4(b) of the Executive Order deals with the recruitment of science and technology personnel. Section 4(c), which you have asked me to address today, calls for the development of a "central mechanism for the prompt and efficient dissemination of science and technology information developed abroad..."

The Department is keenly aware of the profound impact of science and technology on all aspects of our daily existence as well as their influence on both our domestic and foreign policies. Secretary Shultz, in a recent speech, noted that, "... what is taking place in the world ... is a moment of tremendous change ... driven primarily by the emergence of new technology." Examples abound! For instance, new information technology has changed the way we manage business and conduct diplomacy. But, even as we communicate more, the use of fiberoptics in telecommunications is reducing demand for copper, an important export for many nations.

The linkages between foreign policy, economic growth, and science and technology are nowhere better demonstrated than in our nation's efforts to ensure the competitiveness of American industry. In his letter last month transmitting to Congress the eighth annual report on Science, Technology and American Diplomacy, the President noted that:

> "Our nation's global competitiveness in the 21st century will depend on our maintaining our comparative advantage in science and technology. If U.S. science and technology is to remain the world's best, its participants must have full access to developments and scientific results produced elsewhere."

Mr. Chairman, the State Department and the Foreign Service are firmly committed to ensuring access to foreign S&T developments. In implementing this section of Executive Order 12591, we are working closely with the Department of Commerce, the National Science Foundation, other key segments of the science community, and with various offices in the State Department to ensure that our resources are put to the best possible use, and that the myriad international activities of American business and our learned societies are not duplicated.

To that end, the State and Commerce Departments, and the NSF are cooperating in a study to establish reporting priorities. The study is designed to determine, by country, which fields of foreign S&T activity are of most importance to domestic users. We expect it to give us the necessary information to implement a pilot project at the beginning of the 1988 fiscal year which will, in turn, provide us with the experience and information we require to undertake a full-scale program.

Through direct interaction with the American S&T community, the pilot program will allow us to further sharpen taskings to our overseas reporting officers. Equally important, it will provide us with valuable hands-on experience in the actual operation of an interactive system involving numerous disciplines and hundreds of researchers.

The need for priorities in our reporting and dissemination activities is evident when we consider that in Japan alone there are an estimated 10,000 scientific journals. Fortunately, the State Department is not alone in shouldering reporting requirements. Other departments and agencies also have assigned S&T personnel overseas. The Office of Naval Research has highly qualified personnel at its branch offices in London and Tokyo. S&T personnel from other military services are located in a number of countries, as are representatives of various civilian agencies including the Departments of Commerce and Energy, the National Science Foundation, and NASA.

Several Ambassadors have followed the example of Embassy Tokyo in establishing Embassy Science Councils that regularly review the focus of S&T reporting and coordinate the activities of the various S&T representatives. The importance of this function can be seen in the fact that the entities represented on the Tokyo Science Council submit several hundred S&T reports annually.

Mr. Chairman, I wish to bring to your attention one area where we already have tasked selected Embassies for reporting, and have established a mechanism to ensure effective and efficient dissemination of the product. I refer to superconducting materials.

In cooperation with the Department of Energy we instructed S&T officers on the importance of reporting on this rapidly developing field. We also created a direct link with the Ames Research Center at Iowa State University which is publishing a periodic abstract of papers and other information related to superconducting materials. All of our unclassified reporting on the subject is being sent directly to Ames and thereby made immediately available to several hundred researchers through a newsletter and electronically through the DOE Superconductivity Information System operated by the Office of Scientific and Technical Information located in Oak Ridge, Tennessee.

I am pleased that we have been able to move rapidly in the field of superconductivity. At the same time, I want to be honest in acknowledging that in some other S&T fields the priorities are not nearly so clear and the vehicles for diffusing unclassified reporting are less obvious. However, we will continue to build on experience and to broaden the range of our endeavors in cooperation with NSF and the Department of Commerce.

One other related point that I am sure the Committee will appreciate is the fact that the process of tasking, reporting, analyzing, and disseminating information on foreign S&T developments requires resources. We are currently reviewing budgetary impacts, but there is no denying that the severe cuts imposed by Congress in the State Department budget request will hamper our efforts. I urge Committee members to support a foreign affairs budget that will permit us to continue vital on-going programs and an opportunity for initiating promising new programs as reflected in the President's budget.

Mr. Chairman, Section 4(b) of the Executive Order calls on the Secretary of State to develop a policy to encourage qualified scientists and engineers from other federal agencies, academia and industry to apply for assignment in our embassies.

In response to that instruction, the State Department has reviewed the work requirements for officers serving in S&T functions in order to formulate a meaningful recruitment policy to meet our human resource needs. This assessment, which considered the views of a wide variety of observers in the science community both inside and outside government including academia, professional groups and private industry, has led us to conclude that individuals who serve in State Department science and technology assignments should have a solidly based understanding of both policy and science issues. New regulations concerning S&T personnel are currently in final draft form for publication in the Department's Foreign Affairs Manual as Section 158. We have completed final collective bargaining negotiations with the American Foreign Service Association and publication is expected imminently.

For your background I would like to make a few comments on the science and technology personnel of the State Department and the Foreign Service, and describe our efforts to enhance recruitment, training and retention.

Currently, 38 officers are assigned full-time in two dozen embassies and missions abroad. Some 15 other posts have officers who devote at least 20 percent of their time to S&T issues.

More than half of the full-time S&T officers overseas, including those in Beijing, Bonn, Mexico City, Moscow, Paris, Rome, Seoul and Tokyo, have scientific or technical degrees. More than a third are either on detail from technical agencies or were lateral entrants into the Foreign Service from those agencies, academia, or private industry. Included in that number are the officers assigned to Beijing, Pretoria, Tel Aviv and Warsaw.

Within the Bureau of Oceans and International Environmental and Scientific Affairs (OES) there are 20 persons with degrees in scientific and technical fields as diverse as Biology, Physics, Nuclear Engineering, Marine Science and Research Administration. Their skills are supplemented by nine individuals on detail from domestic agencies or serving as Fellows from the American Association for the Advancement of Science (AAAS). Six OES personnel are on detail to the technical agencies.

The Departmental recruitment policy is intended to bring the Foreign Service as a career to the attention of scientifically and technically trained people in a more effective manner than in the past. This approach, combined with policies associated with the other related human resource management initiatives such as training, career development and promotions, are components of the recently-adopted Science and Technology Personnel Sub-Cone.

While we expect that the sub-cone initiatives will enhance the S&T capability within the Foreign Service, the Department recognizes in its policy that there will be a continuing need to seek specific or unique scientific and technical qualifications that are nor available within the Department. As these circumstances arise, we shall continue to bring such assignments to the attention of potentially qualified scientists and engineers in the Federal agencies, academic institutions and industry.

Our efforts to bring individuals with S&T backgrounds into the Foreign Service at the entry level will provide the Department with an increased pool of "S&T literate" personnel for the longer term.

Over the next several decades it will be vitally important that all Foreign Service personnel, whether they are political or economic officers, Ambassadors or Deputy Chiefs of Mission, have a solid understanding of the potential impact of scientific and technical developments occuring about them. We therefore intend to target recruitment activity to a number of selected schools such as Princeton, Harvard and MIT where successful programs of combined science and public policy are offered.

I appreciate this opportunity to report on the steps we are taking to implement the Executive Order, and to bring to the committee's attention the qualifications of our S&T personnel.

In closing, Mr. Chairman, let me reiterate the State Department's strong commitment to carrying out the President's desire to strengthen our competitiveness through science and technology. In cooperation with the other interested agencies we are well-launched in that process.

Thank you. I would be pleased to answer any questions you may have.

May we go ahead, Dr. Clark?

Mr. **Clark**. Thank you, Mr. Chairman.

It is a pleasure to be here with you again this morning.

I would like to very briefly summarize some of the points made in my written testimony regarding Executive Order 12591, to facilitate access to science and technology.

We believe that the impact of this Executive Order on American competitiveness will be direct and substantial.

At this time, I would like to briefly highlight a few existing NTIS programs and capabilities which serve the end of the Executive Order, and then summarize our new activities directed to section 4(b) of the Executive Order.

I will include, as you have requested, some information on our related initiatives responding to the Japanese Technical Literature Act of 1986.

As you are well aware, NTIS serves as the Government's central clearinghouse for the collection and dissemination of scientific, technical and engineering information.

Thus, NTIS provides a full array of information products and services, on a cost recovery basis, designed to encourage wider use of technology.

In 1986, almost 70,000 information products were added to the collection. I would like to point out that this includes not only the traditional technical reports but also software, numeric databases, patent applications, published searches, and other items.

This 1986 collection included about 40,000 technical reports from domestic sources, along with about 15,000 reports from foreign sources. And over the past five years, we have acquired about 1,000 technical reports each year from Japan.

NTIS ships over 20,000 of these information items to our customers each working day, and as a result of all of this, we have the systems and the expertise needed to receive and process orders and to bill and collect fees. High-volume users of NTIS services can maintain deposit accounts with us, or they can use purchase orders, checks, cash or credit cards.

We also provide these same financial and dissemination services to other federal agencies who do not have such capabilities of their own. These services include billing and collection services for the Department of Defense Technical Information Center and the National Library of Medicine.

Several of the earlier witnesses this morning noted our financial track record over the last decade. It is our annual financial plan to break even, and I would like to point out that we have, as planned, made a little bit of money more years than we have lost money.

Until 1980, most of the foreign reports came to NTIS by way of other agencies of the United States Government, such as the Department of Energy, who obtained them directly from their foreign counterpart agencies.

In 1980, we began to take a more active role in seeking out, acquiring, and disseminating foreign technical reports of potential high interest to U.S. industry.

To do this, we have to go through the myriad of copyright and organizational arrangements in many other countries; and, as a result, we have established in 60 other countries cooperating agencies. I would like to point out that this year we are celebrating a decade of cooperation with the Mitsubishi Research Institute of Japan.

The documents that are included in the collection are included whether they are in English or in some other language.

I know that the Committee is interested in the language problem, so I will comment on that briefly.

English language summaries are always disseminated through the various NTIS announcement and bibliographic media. The demand for the English language foreign materials by NTIS users is virtually indistinguishable from the demand for similar kinds of U.S. documents.

That is, the demand seems to be based more on the subject matter of the reports rather than on their country of origin. The demand for reports in foreign languages is somewhat lower but, nonetheless, it is greater than one might expect. We do translate only a handful of reports into English each year. The reason is the relatively high expense compared to an acceptable price and the difficulty of selecting what you might call winners in a financial sense.

In specific compliance with the Japanese Technical Literature Act, we are now preparing a directory of U.S. organizations which provide access to Japanese technical literature and a listing of Japanese-to-English translations which have been done by U.S. Government agencies.

In addition, along with other parts of the Commerce Department, we are funding a new Office of Japanese Technical Literature in the Office of the Under Secretary of Commerce. We are sharing those expenses with the National Bureau of Standards, the International Trade Administration, the Patent and Trademark Office, and the National Telecommunications and Information Administration of Commerce.

That office will coordinate all Executive Branch activities under this Act, and will soon issue a report to the Committee on the progress of the Act's implementation.

I also would like to mention that we provide direct online access from the United States to a major Japanese database system, which is the analogue of the NTIS database which was mentioned by Jim Seals of ACS in testimony yesterday—the JICST Online Information System [JOIS].

Much of the information in that system is in Japanese. The STN system that was mentioned yesterday is strictly an English language system.

There are two files available in the JOIS system that are in English, and we have arranged with George Mason University to provide help for users of the Japanese language system.[53]

In addition, there are a number of other private-sector resources for Japanese scientific and technical information. We heard about STN International yesterday. We also have frequent conversations with University Microfilms, Inc., and with other organizations that are involved in bringing in the Japanese information.

---

[53] For more information, contact the Japanese Technical Information Research Service, George Mason University, 4400 University Drive, Fairfax, Virginia 22030. Telephone numbers: (703) 487-4870 (or 4869).

And if you would like, we could provide more of that information for the record.

Finally, let me move on to the new NTIS activities in specific response to the Executive Order. Our first step was to review the relevant existing information resources and programs, both in and out of the Government.

We concluded that our initial efforts should be directed to establishing a central mechanism for information dissemination which can refer users to other sources when appropriate, and which can disseminate information acquired through Commerce, State, and NSF efforts initially.

As Ambassador Negroponte has pointed out, and I am sure Dr. Moore will, Commerce, NSF and State have already, in a very short period of months, established an excellent working relationship. We have been working together to lay out our plans in mutually supportive roles.

One outcome of the meeting of the principals in May was the decision to do a pilot study of the best dissemination mechanism. We have been discussing the NTIS views and experience with the NSF's contractor, SRI International, and we know that the conceptual design will take account of the NTIS experience.

We expect to participate actively in the ensuing study during the first half of fiscal year 1988. And we do expect that we will ultimately provide billing and other services for the actual dissemination mechanism.

We will certainly develop promotional programs, and we will try to attract the largest possible number of domestic users of the foreign source information.

Our policy will continue to be to do all of this with private sector cooperation and assistance.

In closing, I would like to point out that we are cosponsoring, in September, with the British Library a unique International Conference on Japanese Information in Science, Technology, and Commerce.

The Conference, which will be held in Warwick, England, aims to exchange British and American experience with Japanese technical information. We intend to review existing sources of Japanese information, and the problems and solutions in accessing it. The outcome of the Conference, we expect, will be to pinpoint what international and cooperative action is required in order to improve the situation that English-speaking countries are experiencing.

In conclusion, let me state our conviction that NTIS can play a significant role in increasing American use of technical information abroad, and we are delighted for the opportunity to work with State Department and National Science Foundation to that end.

[The prepared statement of Dr. Clark follows:]

Statement by Dr. Joseph E. Clark
Deputy Director
National Technical Information Service
for the
Subcommittee on Science, Research and Technology
of the
U.S. House of Representatives Committee on Science, Space and Technology
Wednesday, July 15, 1987

Good morning, Mr. Chairman. I would like to thank you for this opportunity to describe the steps NTIS is taking to help implement Executive Order 12591 dated April 10, 1987, entitled "Facilitating Access to Science and Technology."

As our Department's General Counsel stated in testimony before this Sub-Committee on April 29, we believe that the impact of this Executive Order on American competitiveness will be direct and substantial. Our earlier testimony emphasized the management of our domestic research results -- of the intellectual properties that result from American R&D investments. The NTIS role in this activity is well known to this Committee: our successful track record of licensing government-owned patents, our operation of the Federal Software Exchange Center, and our extensive dissemination of government-funded technical reports.

Today, we focus on Section 4(c) of the Executive Order which directs the Secretaries of State and Commerce and the Director of the National Science Foundation to "Develop a central mechanism for the prompt and efficient dissemination of science and technology information developed abroad to users in Federal laboratories, academic institutions, and the private sector on a fee-for-service basis."

I will briefly review existing NTIS programs and capabilities which serve this end, then summarize our new activities directed to this section of the Executive Order. In conjunction with my description of both existing and new activities under the Executive Order, I will include information on our related initiatives responding to the Japanese Technical Literature Act of 1986.

EXISTING NTIS PROGRAMS

NTIS serves as the Government's central clearinghouse for the collection and dissemination of scientific, technical, and engineering information. Thus, NTIS provides a full array of information products and services, on a cost recovery basis, designed to encourage wider use of technology. We have collected and disseminated technical reports and other information products since World War II.

In 1986, almost 70,000 information products (technical reports, software, numeric databases, patent applications, published searches, and other items) were added to the collection. This included about 40,000 technical reports from domestic sources along with about 15,000 reports from foreign sources. Over the past five years, we have acquired about 1,000 reports each year from Japan. Almost two million different technical publications are now available, none of which is ever "out of print" at NTIS. The online NTIS Bibliographic Database now contains 1.25 million records, dating back to 1964.

NTIS ships over 20,000 information items to our customers each working day. As members of this Committee know, NTIS operates its clearinghouse functions on revenue from sales of products and services; NTIS receives no appropriations for our clearinghouse activities. We have the systems and expertise needed to receive and process orders and bill and collect fees. High volume users can maintain deposit accounts with us, or they can use purchase orders, checks, cash or specified credit cards.

We also provide financial and dissemination services to other Federal agencies who do not have such capabilities of their own. These services include billing and collection services for agencies such as the Defense Technical Information Center for DoD contractor access and use of the Defense Research OnLine System, and the National Library of Medicine for public use of their MEDLARS Biomedical Information System. Dissemination services are provided for agencies such as the Department of Health and Human Services, the Department of Energy and NASA.

Since the time of its inception, NTIS has acquired and disseminated technical reports from foreign sources. Until 1980, most of these reports came to NTIS via other U.S. Government agencies, such as the Department of Energy, who obtain them from their foreign counterpart agencies. In 1980, NTIS began to take a more active role in seeking out, acquiring and disseminating foreign technical reports of potential high interest to U.S. industry. Appropriated funding was provided to initiate this acquisition effort during fiscal years 1980-83. Since that time, the program has been operated by NTIS on a self-supporting basis.

NTIS must negotiate copyright arrangements with many foreign sources before the reports can be reproduced and disseminated. This negotiating process is sometimes carried out by NTIS on an agency-to-agency basis, and sometimes through the intermediary of acquisition agents (which NTIS maintains in England and Japan) or one of our 60 cooperating agencies throughout the world. We are now celebrating our tenth year of collaboration with our cooperating organization in Japan, the Mitsubishi Research Institute.

NTIS now receives a regular flow of foreign technical reports from Western Europe, Japan and elsewhere. Arrangements for obtaining the reports vary greatly from country to country. For example, England has no central technical information resource comparable to NTIS, so various arrangements must be made with each individual source organization in that country. West

Germany, on the other hand, provides NTIS with a computer tape containing citations to and English-language abstracts of technical reports sponsored by all Federal German agencies. The tape is in a format which can be merged directly into the NTIS Bibliographic Database. The full text of the cited documents is furnished by a single German organization, the Technische Informationsbibliothek (TIB) in Hannover.

Documents are included in the NTIS collection whether they are in English or in some other language. However, English-language summaries are always disseminated through the various NTIS announcement and bibliographic media. The demand for English-language foreign materials by NTIS users is virtually indistinguishable from the demand for similar kinds of U.S. documents. That is, demand seems to be based more on the subject matter of the reports than their country of origin. The demand for foreign-language reports is lower but, nonetheless, greater than one might expect. It appears that many users have the capability of handling foreign-language technical literature.

NTIS only translates a handful of reports into English each year. The reason for this small number is that, given the highly specialized nature of the reports, it is almost impossible to recover the high translation costs through the relatively few sales of the translated report. Reports selected for translation are those we judge to have a much broader than average potential readership.

Some of these activities are responsive to the Japanese Technical Literature Act of 1986. In specific compliance with that Act, NTIS is preparing a directory of U.S. organizations which provide access to Japanese technical literature and a listing of Japanese-to-English translations which have been done by U.S. Government agencies.

NTIS also shares the cost with the National Bureau of Standards, the International Trade Administration, the Patent and Trademark Office, and the National Telecommunications and Information Administration for the Office of Japanese Technical Literature in the Office of the Under Secretary for Economic Affairs in the Department of Commerce. This office coordinates the Executive Branch activities under the Act and will soon issue a report to the Congress on the progress of the Act's implementation.

NTIS is also engaged in several other activities which support the objectives of the Act, although they are not specifically required by it. One of the most interesting of these is providing direct online access from the U.S. to a major Japanese database system, the JICST Online Information System (JOIS). JICST, the Japan Information Center for Science and Technology, is the Japanese analogue of NTIS and is a component of the Science and Technology Agency of the Prime Minister's Office. JOIS contains several bibliographic reference files to Japanese technical information, biomedical information, research in progress and new products. Much of the information in the system is in Japanese, although there are two files available in English. George Mason University operates a help desk, under an agreement with NTIS, for users of the Japanese language system.

In addition to the foregoing, there are a number of private-sector resources for Japanese scientific and technical information. If the Committee is interested, I will be happy to provide these for the record or answer any questions.

A NEW MECHANISM FOR FOREIGN INPUT

Let me move on to new NTIS activities in response specifically to the Executive Order. Our first step was to review the relevant existing information resources and programs I cited earlier. We concluded that our initial efforts should be directed to establishing a central mechanism for information dissemination which can refer users to other sources when appropriate, and can disseminate information acquired through Commerce, State Department and NSF efforts.

As Dr. Moore of NSF and Ambassador Negroponte of the State Department have described, our three agencies have been working together to lay out our plans and mutually supportive roles. One outcome of our meeting in May was the decision to do a pilot study of the best dissemination mechanism. We have been discussing our views with NSF's contractor, SRI International, and we know that the conceptual design will take account of the

NTIS experience. We will participate actively in the ensuing study during the first half of fiscal year 1988. And we expect that we will ultimately provide billing and other services for the actual dissemination mechanism.

We will certainly develop promotional programs designed to attract the largest possible number of domestic users of the foreign-source information. Our policy will continue to be to do all of this with private sector cooperation and assistance.

I should note that in September, NTIS is co-sponsoring the International Conference on Japanese Information in Science, Technology and Commerce with the British Library. The Conference, which will be held in Warwick, England, aims to exchange British and American experience with Japanese technical information. We will review existing sources of Japanese information, and problems and solutions in accessing it. With an eye to the future, we will identify trends, outstanding problems and possible solutions, with emphasis on international cooperation. Finally, we will pinpoint what action is required and how it can be implemented. We see this international Conference as a unique opportunity for all parties interested in the problems of access to Japanese science and technology.

In conclusion, let me state our conviction that NTIS can play a significant role in increasing American use of technical information from abroad. This objective will be fully realized under the President's privatization proposal, and we have found an excellent synergism in working with State and NSF to do it.

Thank you, Mr. Chairman and Members of the Committee. I will be pleased to answer any questions you may have.

Mr. Brown. Thank you very much, Dr. Clark.

Dr. Moore.

Dr. Moore. Thank you, Mr. Chairman. We have submitted testimony for the record. I'll try to be very brief in a summary. Much of what I have to say has already been said, and I will try not to be repetitive.

My testimony, of course, focuses on the National Science Foundation's activities in implementing the Executive Order 12591. But before talking very briefly about that, I would like to mention some activities within the government and in the National Science Foundation, in particular, that complement and reinforce the Order's objectives.

I'll start with the working group of the Federal Coordinating Committee for Science, Engineering and Technology, called the Committee on International Science, Engineering, and Technology, the CISET Committee.

This committee was established by the Director of OSTP in December 1985. It was organized with four working groups. One of those working groups was the group on International Education Infrastructure and Facilities, and that particular working group is chaired by NSF.

A principal focus of this group has been, and remains, the effective transfer to domestic users of information about science and technology developments abroad.

At its meeting in April of this year, the committee adopted certain initial recommendations. These included an expression of support for continued data collection and dissemination by participating agencies; support for the idea of agency use of their advisory committees to determine specific information needs among industrial and university users; and also the reinstitution by the Department of State of annual meetings of U.S. science officers, with a view to developing a better understanding of the needs and opportunities in the gathering, analysis, and dissemination of information on foreign science and technology.

The Working Group has found in its discussions over the period of months that, in fact, there is a very large volume of information available about developments in science and technology abroad, and that the most significant problem is not so much one of obtaining more information but rather of developing effective methods for assessing, synthesizing and distributing that information to meet the various user needs.

And I think that in the testimony from yesterday, and also some of the testimony on this panel, it's clear that there is a lot of information available.

I think that in directing NSF and the Departments of State and Commerce to create a mechanism for dissemination, the Executive Order speaks to this particular concern.

I would also like to mention the establishment of a new office at the National Science Foundation in this area. Because of the recognition of the importance of gathering and disseminating information about science and technology abroad, the Foundation established an Information and Analysis Section within the Division of International Programs this past March, exactly on March 15.

This section, which is under the direction of Mr. Charles T. Owens—who, by the way, served as our representative in Tokyo for four years until his return last summer to the Foundation—is charged with the collection of information, with reporting, with analysis of the information, and with the dissemination of final products to NSF management and staff, to other Federal agencies, and to the U.S. scientific and engineering community.

The products of this particular office will be made available both electronically and on paper.

One other activity of the Foundation that I would like to mention briefly I have already alluded to is that NSF has two overseas offices that actively monitor science and technology in their particular regions.

NSF/Tokyo has been in existence for a number of years, and reports primarily on developments in Japan, but is in position to do the same for other countries in the Pacific Rim. We also have an office, a much newer one, in Paris, that is charged with that responsibility for Europe.

An initiative that is related to the intent of the Executive Order has been the recent announcement to the outside scientific community, by way of the National Science Foundation *Bulletin*—which goes out to thousands of people in the United States on a monthly basis—of the NSF/Tokyo's office's Report Memoranda series.

I might just mention that these reports were initiated in 1982; they deal with a number of issues in Japan—science and technology policy, developments in their science and engineering infrastructure, the allocation of resources to research, and so forth.

Since 1982, approximately 125 reports have been issued by our Tokyo office.

The announcement of the availability of these reports in our *Bulletin* has produced about 180 requests in the few months since that particular announcement was made, and we will continue to publicize the availability of those reports.

Let me make just a few comments about the implementation of the Executive Order. Ambassador Negroponte and Dr. Clark have already described to a large degree what we are doing, and what we are doing is developing this pilot project with the assistance of SRI International, funded by NSF.

The pilot project is now being developed by SRI International in consultation with the agencies involved. That design should be finished early in September, and we anticipate beginning the study, the pilot study, in early October.

The users of this project—of the service that this project will represent—will be nominated by NSF and Commerce.

And here I would like to comment that one of the findings in the discussion of the CISET Committee and elsewhere has been that it is very important to identify users and attempt to match the kinds of information that are being distributed with the needs of the users in question. And, so, in this pilot project we will attempt to test that particular concept by identifying particular groups of users that we believe will have a real interest in this information.

These users will be asked to provide feedback on the quality and on the topical value of the information provided, and to suggest improvements in the system.

We want their comments on the value of the information because, as you know, the Executive Order specifies that this service be provided on a fee-for-service basis, and we need to find out how people value it, if we are going to charge fees for it.

The mechanism for collecting those fees is being developed on a cooperative basis by NSF, the Department of State and the Department of Commerce. Neither the Foundation nor, to my knowledge, the Department of State has a system for collecting fees of this kind, and so we have to determine some alternative, and obviously a very good one is the National Technical Information Service.

I'd like to emphasize that throughout the process of developing this response to the Executive Order, the representatives of the agencies that are involved have all expressed a willingness to lend their agencies' resources to the pilot study and to the dissemination program when it is launched.

Mr. Chairman, I would also mention that the Order, the Executive Order, deals with more than the international aspects of this transfer of information, of technical and scientific information, and that the programs of the National Science Foundation, of course, include many more information transfer activities than those I have been describing here.

I would also like to conclude by saying that we believe that this is an extremely important element of the nation's strategy for economic competitiveness. We welcome the Executive Order, and we are gratified at the attention of this Subcommittee to the matter.

I'll be happy to respond to questions.

[The prepared statement of Dr. Moore follows:]

STATEMENT OF
DR. JOHN H. MOORE
DEPUTY DIRECTOR OF THE
NATIONAL SCIENCE FOUNDATION

HEARINGS ON FEDERAL SCIENTIFIC & TECHNICAL INFORMATION POLICIES
BEFORE THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

WASHINGTON, D.C.
WEDNESDAY, JULY 15, 1987

INTRODUCTION

Thank you, Mr. Chairman. It is my pleasure to appear before you today to discuss Federal policies regarding the collection and dissemination of scientific and technical information.

The focus of this hearing is the implementation of the President's Executive Order No. 12591 (April 10, 1987), which directs the National Science Foundation, together with the Departments of State and Commerce, to develop "a central mechanism for the prompt and efficient dissemination of science and technology information developed abroad to users in Federal laboratories, academic institutions, and the private sector on a fee-for-service basis." Steps taken to date to comply with this order are described below.

Of course, that Executive Order covers a much broader scope than the specific issue of the dissemination of information developed in other countries. Generally, the Order is intended to promote cooperation among the public and private sectors in cooperative research and commercialization of results, in part by facilitating technological information transfer from producers to users. The National Science Foundation has, over the last several years, undertaken programs that are intended to meet this objective. Some of these programs are described below.

BACKGROUND: INTERAGENCY COOPERATION

CISET Working Group. In December 1985, the Director of the Office of Science and Technology Policy established the Committee on International Science, Engineering, and Technology (CISET) as a committee of the Federal Coordinating Committee on Science, Engineering and Technology. At an organizational meeting of the CISET in March 1986, several working groups were formed to carry out the purposes of the committee. Among these was the Working Group on International Education, Infrastructure, and Facilities, which is chaired by NSF.

During its meetings, the Working Group has devoted much of its attention to the matter of the effective transfer of information about developments in science and technology abroad to domestic users. These discussions have served to focus the participating agencies, including NSF, on the issues and problems involved. At a meeting in April 1987, the Working Group adopted a set of initial recommendations:

1. That the Department of State be encouraged to reinstitute annual meetings in Washington of U.S. Science Officers with a view toward developing a

better understanding of opportunities, needs, and constraints associated with the gathering, analysis, and dissemination of information on foreign science and technology.

2. That the Department of State and Science Officers at U.S. missions abroad continue to provide, annually and as part of the post report plan, basic information about the science policy framework and the science and engineering resources of countries where science officers are assigned; and that the National Science Foundation, in cooperation with other agencies, prepare and make widely available summaries of these reports, possibly as a series of entries compiled as an International Science and Technology Policy Yearbook.

3. That participating technical agencies (including the Department of Commerce, the National Institutes of Health, and the National Science Foundation) be encouraged to make use of existing external advisory committees to determine specific needs for foreign science and technology information and data among potential industrial and university researchers; and that those committees be used to provide guidance on the effective dissemination of such information and data and on modes for cost sharing, when appropriate.

4. That the participating agencies, in consultation with the Department of State, be encouraged to expand their present use of external contractors and consultants to conduct and disseminate special studies on foreign science and technology in their areas of responsibility to their respective user groups.

5. That participating agencies be encouraged to continue in their efforts to develop mechanisms (including on-line retrieval systems) to make existing information on foreign science and technology more widely accessible to academic, industrial, and government researchers.

Generally, the Working Group found that the volume of information about international science and technology developments that is available is large, and that the most important problem is to design methods to synthesize, assess, and distribute the information to users in a manner that matches the information content with the users' interests and needs. The Executive Order, in directing NSF and the Departments of State and Commerce to create a mechanism for dissemination, speaks to this concern.

U.S. Competitiveness Workshop. During October 1986, NSF and the Office of Naval Research sponsored a workshop entitled, "Monitoring Foreign Science and Technology for Enhanced International Competitiveness: Defining U.S. Needs." Its purpose was to identify ways in which monitoring science and technology abroad could advance the nation's competitiveness. Representatives from U.S. industry, government, and academia met for extensive discussions during the workshop.

The tentative conclusions of this workshop, generally consistent with the views expressed in the CISET Working Group's discussion, included:

- The information products must be well-targeted to users. The government should address the market from the point of view of users' needs to determine and stimulate demand, via expanded test-marketing and promotion, preferably with the private sector.
- There is no overall inventory of sources of federally held information on foreign science and technology.
- Timeliness of information is critical.
- Government seed funding and feasibility studies for new information and dissemination services that would monitor foreign research -- particularly jointly with other agencies and private organizations -- should be pursued.
- There is considerable potential for expanded government partnerships with private-sector providers and users. The government can also capitalize on its role as a prime user of information and be a stronger coordinator.

Establishment of New NSF Office

In recognition of the importance of gathering and disseminating information about scientific and technological developments abroad, NSF established an Information and Analysis Section within the Division of International Programs on March 15, 1987. The Section is charged with responsibility for the collection of information, reporting, analysis, and dissemination of final products to NSF management and staff, to other U.S. Government agencies, and to the U.S. scientific and engineering community in academia and industry. The products of the Section will be made available both on paper and electronically. Under the direction of Mr. Charles T. Owens, a staff of eight has been assembled to carry out these functions.

NSF International Offices

NSF has two overseas offices which actively monitor science and technology in their respective regions. NSF/Tokyo reports primarily on scientific developments in Japan; NSF/Paris does the same for Europe.

An initiative related to the intent of the Executive Order has been the recent announcement to the outside scientific community, via the NSF Bulletin, of the availability of NSF/Tokyo's Report Memoranda series. These Reports provide intensive information on Japanese science and technology policy, infrastructure, and resource allocation. Since their inception in 1982, the Reports have been published an average of 21 times per year for an internal NSF readership. The announcement of the availability of these Reports to our outside audience has produced approximately 180 requests for a total of about 1,100 reports since April 1.

NSF'S IMPLEMENTATION OF THE EXECUTIVE ORDER

The efforts just described were in place or identified prior to the issuance of the President's Executive Order. Insofar as they fall within the spirit of the President's mandate, they were reinforced upon its issuance. However, in compliance with the Order, NSF took further steps.

Interagency Strategy Meeting: Pilot Study. On May 13, NSF convened a meeting of representatives of the three agencies cited in the Executive Order to discuss strategies for carrying out the President's mandate for moving information on foreign science and technology to the nation's academic and private research communities. The attendees were:

- Dr. John H. Moore, Deputy Director, National Science Foundation
- Dr. Bruce Merrifield, Assistant Secretary of Commerce for Productivity, Technology, and Innovation
- Mr. Peter Jon de Vos, Deputy Assistant Secretary of State for Science and Technology Affairs

- 0 Mr. Thomas Wajda, Director of Science and Technology Support, Bureau of Oceans and International Environmental and Scientific Affairs, Department of State
- 0 Mr. C. T. Owens, Head, Information and Analysis Section, Division of International Programs, NSF
- 0 Mr. Gerard Helfrich, Office of the Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs
- 0 Dr. William Blanpied of the Information and Analysis Section, NSF

As a result of this interagency meeting, the participants agreed to conduct a pilot study of an information dissemination service. This service will provide unclassified State Department cables on science and technology topics; trip reports and other descriptive materials from staff at NSF, Commerce, and other agencies; and reports from other agencies to interested parties in academia, national laboratories, and industry. The information will be provided to a targeted user group in an effort to insure its usefulness.

The pilot study is currently being designed by SRI International, with NSF support. The design phase is due to be completed in early September. During this phase, the system of information collection, synthesis, and dissemination will be designed, a set of topics for emphasis will be selected, and appropriate users will be identified. The design will be monitored and input provided by NSF and the Departments of State and Commerce.

The study will be launched in October and will run for five to six months. The users will be asked to provide continuous feedback on the quality and topical nature of the information received, to suggest improvements, and to participate in an evaluation of the service at the end of the study. Because the Executive Order specifies that materials should be provided on a "fee-for-service basis," the users will be asked for comments on the value of the various types of materials as well.

The actual mechanism for collecting fees for this type of service will be developed with the close cooperation of State, Commerce, and NSF. Since neither NSF nor the State Department has an established collection mechanism for information dissemination, it is expected that some alternative will be suggested. One possibility is the National Technical Information Service.

It should be emphasized that, throughout the process of developing long-range programs in response to the Executive Order, the representatives of the agencies involved have expressed a willingness to lend their agencies' resources to the pilot study and to the ultimate dissemination program.

CONCLUSION

The programs outlined here illustrate progress on the important task of moving new knowledge on science and technology to the nation's research community, in concert with the President's Executive Order. That Order, of course, deals with more than the international aspects of this transfer, and NSF's programs include many more information transfer activities.

We believe that the transfer of information is a critically important element of the nation's strategy for economic competitiveness. Therefore, we welcome the Executive Order and are gratified at the attention of this Subcommittee to the matter.

Mr. **Brown**. Thank you, Dr. Moore.

Mr. Coyne.

Mr. **Coyne**. Thank you, Mr. Chairman. I have been down in Oak Ridge for about 10 years now, having moved from the National Technical Information Service. I believe I have some good experience to offer in terms of the needs of mission-oriented areas but with a focus on the research and development needs of our R&D complex.

In your letter of invitation to appear here, you asked that I address three areas. One, our experience in negotiating access to foreign material; two, comments on developing an effective policy making mechanism for the collection and dissemination of information; and our views on the proper balance between public and private sector interests.

I would like to start by suggesting that our first priority here in the Department of Energy is on R&D productivity. We have at least 42,000 scientists and engineers working every day, funded by the Department, and we are trying to get information to them.

Second I think that we need to be careful in our characterization of scientific and technical information. It takes so many different forms. I think that a simplistic view is one that can be very damaging to any programs that we might structure.

They must deal, for example, with the complexity of not only bibliographic information on scientific and technical data, but full text, numeric, and factual information. When you are dealing in a very structured environment, such as the Department of Energy, on the various energy technologies that we are dealing with, it becomes complex.

I wonder about the risks. Sometimes we talked about centralization of some of these issues; we are talking about scientists that have very specialized interests, and those interests are best dealt with on a very specialized basis.

The integrity of data, for example, is maintained at the laboratory level. If we are to have technology transfer, we must first have knowledge of the technology that is generated by the Federally-funded process.

Spending $60 billion a year, who knows where the knowledge is, how much is created, and that sort of thing. We must first generate a base of that knowledge.

Second is the information transfer. That is, the information flowing from contractor-generated work. Finally, then, we get into the technology transfer stage.

If you do not mind, Mr. Chairman, I would like to address the second item that you invited me to talk about first. That is the effective policy-making mechanism.

If you look at the $60 billion that is being spent, much of it is covered in the Department of Defense, the Department of Energy, NASA, and Department of Commerce. Those four or five agencies cover about 90 percent of the R&D.

If you are going to have an effective mechanism of the whole process of knowledge of information, R&D created all the way through, our experience has been, sir, that you need about these four or five mechanisms to effectively manage.

The first is an ability, within the agency, to coordinate the establishment and the communication and the implementation of policy and procedures on scientific and technical information that derives from R&D.

Second is a mechanism to provide access to that scientific and technical information to those researchers in that agency. Third is to provide advice and assistance to those research and development offices within the agency, in terms of how to get the best out of the information that they are creating.

The fourth is to provide a focal point within that agency, in terms of participation in international activities regarding scientific and technical information exchange, so that you know what the researchers need, and what is going on in other countries.

The fifth is to provide tools to assist those research offices in maintaining the measure and accountability for information products that come out of those Government-generated R&D activities.

Our experience in the Department of Energy is that, if those elements are well articulated, they will help to provide good communication and understanding on the part of researchers, managers, and information specialists. We believe that they will provide these three benefits.

Good management and control over the scientific and technical information results from the agency's R&D efforts. It is important that we know, particularly when we are dealing with more than 40,000 researchers in the Department of Energy, what research is going on; how it is being reported; and is there a central focal point so that it can be moved.

Second, an understanding of those same researchers' information needs, and a better opportunity to meet those needs, so that they can be more productive. We believe that in the Department of Energy our researchers are more productive than any in mission-oriented agencies, and we believe that we have information to document that they are becoming more productive through this program.

We believe then, finally, that comprehensive access by U.S. business, industry, academia, and state and local government to the agency's research and development results will come from this well-structured program.

I would now like to address your question regarding our experience in negotiating the collection of foreign scientific and technical information. In 1978, when the Department of Energy was formed from a collage of other Government entities we established a principle of reciprocity as the essential element in our negotiations, particularly with industrialized nations, for access to results of DOE research and development.

This was not easy, given the very nature of our open society. We had found that other nations were coming in, taking our results, and using them; we have been talking about that for the last couple of days.

We took a position, however, in the Department of Energy that reciprocity was essential, and we developed that as a model in terms of the agreements that we would enter into with other countries. We worked that through our own Department of Energy International Affairs Office, and through the Department of State.

Our policy of reciprocity has led to an acceptance among other nations. They have seen the possibility, through this mechanism, of linkages. We have seen not only the possibility of their providing information to us, but also the other nations see the possibility of linkages.

We are talking about so-called friendly nations: friendly, at least, in terms of national defense. We found this policy effective in terms of–rather than letting the research results continue to flow out through the open society window, we developed a fair, yet aggressive, policy in reciprocity.

We found that this has led to a generally broad acceptance of reciprocity among those industrial nations that we are dealing with. Let me comment on that. The program has grown from a couple of countries, in 1979 through 1980, to one of significant size. Agreements have now been negotiated with ten countries, enabling mutual sharing of data on the basis of reciprocity.

By 1984, the International Energy Agency, the ministers of those countries, had recommended the adoption of these principles by the IEA, by their member countries. In January of 1986, an International Energy Agency agreement was signed to that effect.

This had the immediate effect of adding, not only to those ten countries, but bringing Canada, Japan and Spain into that program. Equally important is our participation in the International Atomic Energy exchange program.

Has the policy been effective? From the standpoint of collection, we believe the answer is yes. From 1978, when this policy was established, to 1986, Department of Energy acquisition of foreign research increased by 70 percent. In 1978-79, we were bringing in information on about 50,000 research projects in other countries; in 1986, we are bringing in almost 100,000 projects—a total during those ten years of 800,000 reports on energy research being conducted in other countries.

If you refer to my prepared text, you will see a listing of some of the highlights of those countries where we have been very aggressive in bringing that energy technology into this country. So the question is, what do we do with it?

I know the proper balance between the public and private sector is an interest. There are a number of important points. I think those five points that I mentioned, sir, in terms of policy elements, also help bring about the balance between public and private sector.

If you look at those, we can see where the private sector and the Federal sector have their interests: policy making and delivery of information.

Once collected, the information from foreign services is put into machine-readable form. Then it is provided not only to DOE researchers on a very specialized basis, but to the public sector through the vast database marketing capability that commercial vendors have.

They not only participate in making the information available, but they also participate in making it useful to the private sector researchers, outside of the DOE research community.

I will stop at that point.

[The prepared statement of Mr. Coyne follows:]

STATEMENT OF
JOSEPH G. COYNE, MANAGER
OFFICE OF SCIENTIFIC AND TECHNICAL INFORMATION
U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE
TO THE U.S. HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
JULY 15, 1987

MR. CHAIRMAN, IT IS A PLEASURE TO BE HERE TODAY. I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU TO DESCRIBE THE DEPARTMENT OF ENERGY'S EXPERIENCE IN OBTAINING AND DISSEMINATING THE RESULTS OF FOREIGN SCIENTIFIC AND TECHNICAL INFORMATION TO U.S. RESEARCHERS, AND TO DISCUSS OTHER MATTERS AS REQUESTED BY THE CHAIRMAN.

IN YOUR LETTER OF INVITATION TO THE DEPARTMENT, YOU STRESSED THREE AREAS:

FIRST: OUR EXPERIENCE IN NEGOTIATING FOR ACCESS TO FOREIGN SCIENTIFIC AND TECHNICAL INFORMATION.

SECOND: COMMENTS ON DEVELOPING AN EFFECTIVE POLICY-MAKING MECHANISM FOR THE COLLECTION AND DISSEMINATION OF THIS RESOURCE; AND

THIRD: VIEWS ON THE PROPER BALANCE BETWEEN PUBLIC AND PRIVATE SECTOR INTERESTS IN THIS AREA.

IF I MAY, MR. CHAIRMAN, I WOULD LIKE TO RESPOND TO YOUR SECOND QUESTION AT THIS TIME. IN THE FEDERAL STRUCTURE, MISSION-ORIENTED DEPARTMENTS LIKE THE DEPARTMENT OF ENERGY, WHERE THE BULK OF THE FEDERAL RESEARCH AND DEVELOPMENT BUDGET GOES, VARIOUS DEPARTMENTS ARE CHARGED WITH A MYRIAD OF TASKS, I.E., BUILD A BETTER WEAPON, FIND A CURE FOR A DISEASE, OR DESIGN A SPACE STATION. THESE ORGANIZATIONS, OF NECESSITY, FUND LARGE AMOUNTS OF RESEARCH TO ACCOMPLISH THEIR MISSION.

IF THE DEPARTMENT WHICH AUTHORIZES THE RESEARCH RECOGNIZES THE VALUE AND POTENTIAL UTILIZATION OF THE SCIENTIFIC AND TECHNICAL INFORMATION GENERATED, AND HAS IN PLACE A STRUCTURE TO MANAGE AND DISSEMINATE THE INFORMATION, THE INFORMATION GENERATED CAN BE CAPITALIZED UPON BY OTHER PROGRAMS IN THE FEDERAL ESTABLISHMENT AND IN PRIVATE INDUSTRY. MANAGING THIS INFORMATION PROPERLY SHOULD ENHANCE THE MISSION OF THE ORIGINATING DEPARTMENT AND MAXIMIZE THE RETURN ON THE RESEARCH AND DEVELOPMENT INVESTMENT.

THIS WILL NOT HAPPEN AUTOMATICALLY. A STRUCTURE MUST BE IN PLACE TO MAKE IT HAPPEN. IF A DEPARTMENT IS TO HAVE AN EFFECTIVE MECHANISM FOR THE COLLECTION AND DISSEMINATION OF SCIENTIFIC AND TECHNICAL INFORMATION, CERTAIN ESSENTIAL RESPONSIBILITIES MUST BE CARRIED OUT. WE HAVE FOUND IN THE DEPARTMENT OF ENERGY THAT THIS STRUCTURE MUST ACCOMMODATE THE FOLLOWING ESSENTIAL RESPONSIBILITIES:

(1) COORDINATE THE ESTABLISHMENT, COMMUNICATION, AND IMPLEMENTATION OF POLICY, PROCEDURES, AND STANDARDS FOR HANDLING OF SCIENTIFIC AND TECHNICAL INFORMATION;

(2) EFFECTIVELY MANAGE THE RESULTS OF DEPARTMENT-FUNDED RESEARCH, AND, IN ADDITION, ACQUIRE AND PROVIDE ACCESS TO ALL OTHER SCIENTIFIC AND TECHNICAL INFORMATION NEEDED TO CARRY OUT THE ASSIGNED MISSION;

(3) PROVIDE ADVICE AND ASSISTANCE TO PROGRAM OFFICES WHICH AUTHORIZE RESEARCH, IN PLANNING, DEVELOPING, AND IMPLEMENTING SCIENTIFIC AND TECHNICAL INFORMATION ACTIVITIES WITHIN THEIR SPECIFIC AREA OF WORK;

(4) REPRESENT THE DEPARTMENT THROUGH PARTICIPATION IN INTERAGENCY, INTERNATIONAL, AND DOMESTIC SCIENTIFIC AND TECHNICAL INFORMATION ACTIVITIES.

(5) APPRAISE AND EVALUATE THE APPLICATION OF INFORMATION PRODUCTS AND SERVICES THAT ARE A PART OF THE PROCESS, TO DETERMINE THEIR EFFECTIVENESS IN MEETING THE POLICY AND PROGRAM OBJECTIVES.

EACH OF THESE RESPONSIBILITIES IS IMPORTANT AND JOINTLY SERVE AS THE INFRASTRUCTURE FOR EFFECTIVE INFORMATION COLLECTION AND DISSEMINATION. TODAY I WANT TO FOCUS PREDOMINANTLY ON (1), (2) AND (4) ABOVE.

FIRST, WELL-DEFINED AND WIDELY DISSEMINATED POLICIES AND PROCEDURES FOR THE MANAGEMENT AND UTILIZATION OF SCIENTIFIC AND TECHNICAL INFORMATION IN THE DEPARTMENT ARE ESSENTIAL TO THE PROPER FUNCTIONING OF THE SCIENTIFIC AND TECHNICAL INFORMATION PROGRAM. THESE POLICIES, MECHANISMS, AND SYSTEMS SHOULD INCLUDE:

1. COORDINATION OF THE DEVELOPMENT OF POLICY NEEDED TO ASSURE PROPER SCIENTIFIC AND TECHNICAL INFORMATION MANAGEMENT WITHIN THE DEPARTMENT;

2. FULL CONSULTATION WITH ALL DEPARTMENTAL OFFICES, INCLUDING RESEARCH PROGRAM MANAGERS, PROCUREMENT, LEGAL, INFORMATION RESOURCE MANAGEMENT, AUTOMATIC DATA PROCESSING, TELECOMMUNICATIONS.

3. COORDINATION OF DEVELOPMENT OF GUIDELINES FOR RESEARCH AND DEVELOPMENT PROGRAM OFFICE USE IN MANAGING THEIR SCIENTIFIC AND TECHNICAL INFORMATION FROM RESEARCH PROJECT INCEPTION TO TERMINATION;

4. COORDINATION OF THE DEVELOPMENT OF TECHNICAL STANDARDS AND PROCEDURES FOR COLLECTING, RECORDING, DELIVERY OF AND ACCESS TO SCIENTIFIC AND TECHNICAL INFORMATION; AND

5. PROVIDING PARAMETERS AND TOOLS TO ASSIST RESEARCH AND DEVELOPMENT PROGRAM OFFICES IN MAINTAINING AND MEASURING ACCOUNTABILITY FOR INFORMATION PRODUCTS FROM GOVERNMENT-FUNDED RESEARCH AND DEVELOPMENT EFFORTS.

MOVING TO THE SECOND ESSENTIAL RESPONSIBILITY, THE INFRASTRUCTURE SHOULD INCLUDE AN EFFECTIVE MECHANISM FOR MANAGING AND PROVIDING ACCESS TO ALL SCIENTIFIC AND TECHNICAL INFORMATION REQUIRED TO CARRY OUT THE ASSIGNED MISSION.

THIS MECHANISM OR SYSTEM SHOULD ENSURE THAT BOTH UNCLASSIFIED AND CLASSIFIED SCIENTIFIC AND TECHNICAL INFORMATION PRODUCED FROM DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES IS EFFECTIVELY MANAGED, DISSEMINATED, AND MADE AVAILABLE TO SUPPORT RESEARCH EFFORTS.

THE FOLLOWING INFORMATION SERVICES ARE TYPICALLY PROVIDED BY A WELL-THOUGHT-OUT SCIENTIFIC AND TECHNICAL INFORMATION PROGRAM:

- AVAILABILITY OF DEPARTMENT-GENERATED SCIENTIFIC AND TECHNICAL INFORMATION;
- PROVIDING ACCESS TO AVAILABLE RESEARCH AND DEVELOPMENT INFORMATION (COMPLETED AND IN PROGRESS) FROM DOMESTIC AND FOREIGN SOURCES WHICH PERTAINS TO THE DEPARTMENT'S MISSION; AND
- PROVIDING SPECIALIZED PRODUCTS AND SERVICES TO PROGRAM OFFICES AND CONTRACTORS BASED ON NEED.

IN OUR DEPARTMENT OF ENERGY EXPERIENCE, I HAVE FOUND THAT INFORMATION PROGRAMS HAVING THE FOLLOWING CHARACTERISTICS HAVE THE GREATEST LIKELIHOOD OF MAKING SIGNIFICANT CONTRIBUTIONS TO THE DEPARTMENT'S RESEARCH AND DEVELOPMENT EFFORTS:

(1) THE INFORMATION COLLECTION AND DISSEMINATION FUNCTION SHOULD BE VIEWED AS AN INTEGRAL PART OF THE RESEARCH AND DEVELOPMENT MISSION.

(2) THE SCIENTIFIC AND TECHNICAL INFORMATION TARGETED FOR COLLECTION AND DISSEMINATION SHOULD BE RESPONSIVE TO RESEARCHERS' AND PROGRAM MANAGERS' MISSION-RELATED NEEDS.

(3) IT SHOULD BE CAPABLE OF COMPREHENSIVELY COLLECTING AND DISSEMINATING RESEARCH IN PROGRESS AND COMPLETED RESULTS OF ALL DEPARTMENT-FUNDED RESEARCH, PLUS ALL OTHER DOMESTIC AND FOREIGN RESEARCH RELATED TO THE MISSION.

(4) IT SHOULD BE EFFECTIVELY LINKED WITH OTHER COMMERCIAL AND GOVERNMENT-WIDE SCIENTIFIC AND TECHNICAL INFORMATION OUTLETS TO ASSURE THE WIDEST AVAILABILITY OF RESEARCH RESULTS TO ASSIST IN MOVING NEW KNOWLEDGE INTO THE DEVELOPMENT OF NEW PRODUCTS AND SERVICES.

WITH RESPECT TO YOUR PRIMARY QUESTION, MR. CHAIRMAN, I WOULD LIKE TO BRIEFLY DESCRIBE OUR DEPARTMENT'S EXPERIENCE IN ACCESSING AND DISSEMINATING SCIENTIFIC AND TECHNICAL INFORMATION.

LIKE OTHER MAJOR RESEARCH AND DEVELOPMENT DEPARTMENTS, THE DEPARTMENT OF ENERGY'S RESEARCH AGENDA IS A BROAD ONE. EVERY WORK DAY THERE ARE OVER 700 SCIENTIFIC AND TECHNICAL RESEARCH PROJECTS REPORTED ON WORLDWIDE WITH RELEVANCE TO A DEPARTMENT OF ENERGY RESEARCH PROJECT. THROUGH THE INFORMATION INFRASTRUCTURE DESCRIBED EARLIER, THIS RELEVANT INFORMATION IS IDENTIFIED, COLLECTED, AND MADE AVAILABLE TO THE DEPARTMENT OF ENERGY, UNIVERSITIES, AND THE PRIVATE SECTOR. THIS IS DONE IN ESSENTIALLY THREE WAYS: (1) THE DEPARTMENT OF ENERGY EXCHANGES THE RESULTS OF ITS RESEARCH WITH OTHER UNITED STATES FEDERAL AGENCIES; (2) THE DEPARTMENT OF ENERGY OBTAINS INFORMATION ON ENERGY-RELATED DOMESTIC PRIVATE SECTOR RESEARCH; AND (3) THE DEPARTMENT OF ENERGY NEGOTIATES ACCESS TO FOREIGN RESEARCH RESULTS THROUGH COUNTRY-TO-COUNTRY BILATERAL AGREEMENTS AND UNITED STATES PARTICIPATION IN THE PROGRAMS OF THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE INTERNATIONAL ENERGY AGENCY.

THIS ASSURES THAT UNITED STATES RESEARCHERS, BOTH GOVERNMENT AND PRIVATE SECTOR, HAVE REGULAR REPORTING ON RELEVANT FOREIGN RESEARCH. THE IMPORTANCE OF ACCESS TO THESE FOREIGN RESULTS SHOULD NOT BE UNDERESTIMATED -- ALMOST FIFTY PERCENT OF THE 200,000 SUMMARIES OF ENERGY-RELATED RESEARCH PROJECTS COLLECTED AND MADE AVAILABLE TO UNITED STATES RESEARCHERS EACH YEAR ARE THE RESULT OF SCIENTIFIC RESEARCH AND TECHNOLOGY DEVELOPED ABROAD.

WITH RESPECT TO YOUR INTEREST IN OUR EXPERIENCE IN IDENTIFYING AND ACQUIRING ACCESS TO FOREIGN COUNTRIES' RESEARCH RESULTS, THE DEPARTMENT OF ENERGY'S NEGOTIATING AND ACQUIRING SCIENTIFIC RESEARCH AND TECHNOLOGY DEVELOPED ABROAD (PARTICULARLY IN INDUSTRIALIZED NATIONS) AND MAKING THIS INFORMATION AVAILABLE TO UNITED STATES RESEARCHERS HAS BEEN BASED ON THE FOLLOWING BASIC PRINCIPLES:

1. RECIPROCITY IS THE BASIS FOR NEGOTIATION.
2. SCIENTIFIC AND TECHNICAL INFORMATION ACQUIRED FROM OTHER COUNTRIES MUST BE RELEVANT TO THE RESEARCH OF THE DEPARTMENT OF ENERGY.
3. ALL EXCHANGE AGREEMENTS ARE COORDINATED WITH THE DEPARTMENT OF ENERGY'S OFFICE OF INTERNATIONAL AFFAIRS AND THE STATE DEPARTMENT TO ASSURE AGREEMENTS ARE CONSISTENT WITH UNITED STATES FOREIGN POLICY.

TO GIVE YOU AN IDEA OF THE RESULTS OF THIS PROGRAM, DURING THE PERIOD 1978 THROUGH 1986, THE DEPARTMENT OF ENERGY ACQUIRED 800,000 DESCRIPTIONS OF ENERGY-RELATED RESEARCH FROM FOREIGN COUNTRIES FOR ADDITION TO ITS INVENTORY ON ENERGY RESEARCH.

FROM YOUR PERSPECTIVE, I KNOW THAT YOU ARE INTERESTED IN WHAT HAPPENS TO THIS INFORMATION AFTER IT IS RECEIVED AND HOW IT GETS TO THOSE WHO NEED IT. THAT IS PRECISELY OUR INTEREST ALSO, SO LET ME BRIEFLY DESCRIBE THE STRUCTURE WE HAVE IN PLACE TO DISSEMINATE THESE RESULTS. FIRST, AS THE INFORMATION IS RECEIVED, IT IS MERGED ELECTRONICALLY WITH EXISTING DATA FILES AND PROMPTLY PROVIDED TO UNITED STATES COMMERCIAL DATA BASE VENDORS SO THAT THEY CAN MAKE THIS INFORMATION PROMPTLY AVAILABLE THROUGHOUT THE UNITED STATES TO DOE, OTHER GOVERNMENT AGENCIES, AND THE PRIVATE SECTOR.

WHILE THIS MACHINE MANIPULATION IS TAKING PLACE, THOSE DOCUMENTS RECEIVED IN HARD COPY OR ON MICROFICHE, ARE BEING DUPLICATED AND PROVIDED TO ALL U.S. DEPOSITORY LIBRARIES REQUESTING THEM, AND TO THE NATIONAL TECHNICAL INFORMATION SERVICE OF THE U.S. DEPARTMENT OF COMMERCE, SO THAT RESEARCHERS AND OTHERS CAN GAIN PROMPT ACCESS TO THE FULL RESEARCH RESULTS. IN ADDITION TO THESE EFFORTS, DOE HAS A SYSTEM OF CATEGORIZING ALL INCOMING INFORMATION INTO SUBJECT MATTER GROUPS SO THAT RESEARCHERS IN SPECIFIC DISCIPLINES AND RESEARCH AREAS RECEIVE PROMPT ANNOUNCEMENT OF RESEARCH SPECIFICALLY IN THE AREA IN WHICH THEY ARE INTERESTED. THEY IN TURN SCREEN THESE LISTINGS AND INDICATE THE DOCUMENTS THEY WISH TO RECEIVE.

THE PRIVATE SECTOR DATA BASE VENDORS HAVE SIMILAR SYSTEMS WHICH SERVICE THEIR CUSTOMERS. THE POINT IS THAT THE RESULTS ARE PROMPTLY MADE KNOWN THROUGH A WIDE VARIETY OF MECHANISMS AND THAT THE FULL RESULTS ARE AVAILABLE TO THOSE DESIRING THEM.

ATTACHMENT 1 LISTS RESEARCH RESULTS RECEIVED AND INCORPORATED IN THE DATABASE ON THE BASIS OF COUNTRY OF INTELLECTUAL ORIGIN DURING THE PERIOD APRIL 1, 1986, THROUGH JUNE 27, 1987. DURING THE PAST NINE YEARS, THE DEPARTMENT'S ACQUISITION OF INFORMATION ON FOREIGN RESEARCH INCREASED BY 70 PERCENT TO A TOTAL OF 94,400 PROJECT SUMMARIES IN 1986 ALONE. ONCE COLLECTED, SUMMARIES OF THESE RESULTS ARE PROMPTLY MADE AVAILABLE IN BOTH HARD COPY AND ELECTRONIC FORM THROUGH COMPUTERIZED DATABASES, AND A COMPLETE COPY OF THE RESEARCH RESULTS CAN BE OBTAINED BY RESEARCHERS NEEDING THEM.

TWO ADDITIONAL SIGNIFICANT POINTS: IN ADDITION TO RECEIVING RESULTS OF COMPLETED RESEARCH, WE ALSO HAVE NEGOTIATED TO RECEIVE RESEARCH IN PROGRESS INFORMATION. THIS INFORMATION IS DISSEMINATED IN THE SAME WAY DESCRIBED EARLIER AND PERMITS INTERESTED RESEARCHERS AND U.S. FIRMS TO HAVE EARLY NOTICE OF NEW AND INNOVATIVE IDEAS BEING PURSUED OVERSEAS.

A SECOND KEY POINT: THE VERY NATURE OF OUR SOCIETY IS AN OPEN SOCIETY. WE VALUE OUR OPENNESS, AND OUR ABILITY AND TECHNOLOGY TO SHARE INFORMATION OPENLY AND COMPREHENSIVELY. BUT THIS ALSO MEANS THAT OUR INFORMATION IS AVAILABLE TO THOSE OUTSIDE OUR BORDERS. THIS SAME OPENNESS AND AVAILABILITY IS NOT THE SAME IN OTHER COUNTRIES, AND YET OUR AGGRESSIVE STANCE ON RECIPROCITY NOW HAS BROAD ACCEPTANCE AMONG THE NATIONS WE ARE NEGOTIATING AND EXCHANGING INFORMATION WITH.

I BELIEVE THE SUCCESS OF THE DEPARTMENT OF ENERGY'S EFFORTS IN COLLECTING AND DISSEMINATING THESE RESULTS IS DIRECTLY ATTRIBUTABLE TO: (1) THE PRINCIPLES GUIDING THE DEPARTMENT OF ENERGY'S FOREIGN SCIENTIFIC AND TECHNICAL INFORMATION COLLECTION EFFORTS; AND (2) THE EFFECTIVE INFORMATION INFRASTRUCTURE WHICH THE DEPARTMENT OF ENERGY HAS IN PLACE TO DEVELOP AND IMPLEMENT POLICIES, SYSTEMS, AND PROCESSES TO EFFECTIVELY COLLECT AND DISSEMINATE THIS INFORMATION.

FINALLY, MR. CHAIRMAN, WITH RESPECT TO YOUR QUESTION REGARDING THE PROPER BALANCE BETWEEN PUBLIC AND PRIVATE SECTOR INTERESTS IN THIS AREA -- I'D LIKE TO GO BACK TO THE FIVE ESSENTIAL ELEMENTS OF AN EFFECTIVE INFORMATION INFRASTRUCTURE. SOME RESPONSIBILITIES ARE OBVIOUSLY ONLY APPROPRIATE TO BE CARRIED OUT BY FEDERAL EMPLOYEES (I.E., POLICY DEVELOPMENT AND PROGRAM APPRAISAL AND EVALUATION) OTHERS ARE OBVIOUS CANDIDATES FOR PRIVATE SECTOR DEVELOPMENT AND INVOLVEMENT (I.E., COMPUTERIZED ON-LINE RETRIEVAL SYSTEMS). WE HAVE BEEN WORKING CLOSELY WITH THE PRIVATE SECTOR TO DEFINE OUR ROLES AND BUILD ON OUR INDIVIDUAL STRENGTHS AND CAPABILITIES TO ASSURE WIDE DISSEMINATION OF GOVERNMENT-FUNDED RESEARCH RESULTS.

AS YOU CAN SEE, I SUPPORT A MISSION ORIENTED, CENTRALLY ADMINISTERED, STATE-OF-THE-ART TECHNOLOGY-BASED SCIENTIFIC AND TECHNICAL INFORMATION INFRASTRUCTURE DESIGNED TO BE AN INTEGRAL PART OF A DEPARTMENT'S RESEARCH AND DEVELOPMENT PROGRAM.

I BELIEVE SUCH A SYSTEM WILL REDUCE RESEARCH COSTS, INCREASE RESEARCH PRODUCTIVITY, REDUCE UNNECESSARY RESEARCH DUPLICATION, AND ACTIVELY SUPPORT INFORMATION AND TECHNOLOGY TRANSFER BY MAKING THE RESULTS OF DOMESTIC AND FOREIGN SCIENTIFIC AND TECHNICAL RESEARCH AVAILABLE TO UNIVERSITIES AND THE PRIVATE SECTOR. A COMPREHENSIVE SYSTEM CAN PROVIDE, IN PRINTED AND ELECTRONIC FORM, INFORMATION ON ALL ASPECTS OF MISSION-RELATED RESEARCH, INCLUDING:

(1) RESEARCH IN PROGRESS;

(2) INFORMATION ON ALL COMPLETED RESEARCH;

(3) A TRACKING SYSTEM TO ASSURE THAT THE FEDERAL DEPARTMENT GETS THE RESULTS OF ALL RESEARCH FOR WHICH IT PAID;

(4) NON-GOVERNMENT AND GOVERNMENT FUNDED DOMESTIC ENERGY-RELATED RESEARCH;

(5) INFORMATION ON FOREIGN SCIENTIFIC RESEARCH AND TECHNOLOGY;

(6) LINKS WITH PUBLIC AND PRIVATE SOURCES TO ASSURE AVAILABILITY OF THIS INFORMATION TO UNIVERSITIES AND THE PRIVATE SECTOR.

INFORMATION TRANSFER CAN BE AN IMPORTANT LINK IN ASSISTING UNIVERSITIES AND THE PRIVATE SECTOR IN BROADENING OUR TECHNOLOGY BASE AND IMPROVING UNITED STATES COMPETITIVENESS ABROAD WHEN PROPERLY COUPLED WITH COLLABORATION BETWEEN AND AMONG RESEARCHERS, LABORATORIES, GOVERNMENTS AND THE PRIVATE SECTOR; COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS; AND RECOGNITION, ROYALTY AND AWARDS PROGRAMS FOR INVENTORS AND DEVELOPERS.

Attachment 1

Summaries of Energy-Related Research from Foreign Sources Added to DOE's Energy Data Base During the Period April 1, 1986 thru June 27, 1987 by Country of Intellectual Origin

Argentina	260
Australia	2,600
Austria	1,500
Belgium	770
Brazil	2,800
Bulgaria	330
Canada	5,900
CEC (Commission of European Community)	690
CERN (Center for European Nuclear Research	570
China	3,000
Council of Mutual Economic Assistance	120
Czechoslovakia	2,500
Denmark	2,000
East Germany	2,600
Egypt	300
Finland	880
France	8,000
Greece	200
Hungary	940
IAEA (International Atomic Energy Agency)	1,800
India	3,100
Indonesia	110
Ireland	210
Israel	1,000
Italy	2,800
Japan	16,300
Joint Institute of Nuclear Research (U.S.S.R.)	380
Korea	320
Malaysia	170
Mexico	300
Netherlands	5,600
New Zealand	380
Norway	1,000
Pakistan	130
Poland	2,000
Rumania	210
Saudi Arabia	140
South Africa	1,100
Soviet Union	31,300
Spain	940
Sweden	2,200
Switzerland	2,600
Taiwan	180
Turkey	110
United Kingdom	9,700
Venezuela	140
West Germany	21,400
Yugoslavia	310
Other	3,640
Total	145,530

Mr. **Brown**. Thank you very much, Mr. Coyne. You have provided what I would describe as a systems approach to the problem that we have here. I am sure it reflects your own long experience in this field. It is very helpful to the Committee.

I should say, of course, that all of your statements will appear in full in the record. They will make a great contribution to our better understanding of this.

One thing that struck me. I happened to, at one point, try to keep up with the publications of the Foreign Broadcast Information Service [FBIS] on scientific and technical data. None of you have mentioned this. Is that part of your operation, Mr. Negroponte? Are you feeding in the existing collection activities of the FBIS?

You're archiving this, are you not, Dr. Clark?

Ambassador **Negroponte**. It is not part of our agency, of course, Mr. Chairman; but I certainly would agree they do some excellent analytical work.

Mr. **Brown**. Is that part of the State Department?

Ambassador **Negroponte**. No, it is not.

Mr. **Brown**. It is the CIA [Central Intelligence Agency], is it not?

Ambassador **Negroponte**. That is correct.

Mr. **Brown**. Is that classified, that it is CIA?

Ambassador **Negroponte**. I do not believe so.

Mr. **Brown**. I thought that was part of the State Department.

Ambassador **Negroponte**. I think Dr. Clark had a point to add on that.

Mr. **Brown**. How does the collection that we are doing there fit into the overall problem?

Dr. **Clark**. The intelligence community does collect a substantial amount of open-source information that is potentially valuable to American interests. As I understand it, they cannot, by law, distribute that information directly to the public.

As a result, we serve as an outlet for the intelligence community generally, for the information that they select for public distribution within the United States. The Foreign Broadcast Information Service reports are a part of that, as are the Joint Publications Research Service publications.

Mr. **Brown**. I was getting those in my office for a while. I was getting about a foot a month of data. I could not possibly keep up with it; it appeared to be all from open sources.

Dr. **Clark**. It is. The material that we deal in, entirely, at NTIS is unclassified information. We do not have to be concerned about its classification level. I will say that those reports find substantial demand in American business and industry.

Mr. **Moore**. Mr. Chairman, you might be interested in knowing that the FBIS now is publishing, in addition to those reports, a kind of science and technology newsletter. I am not sure that is the right title. It is published on a fairly irregular basis.

It is, essentially, a digest of a lot of the information that they get and they try to select items that they think are particularly important or interesting. They put them in this report, which is only about 15 pages or so, that comes out every month, roughly speaking, or something like that.

Mr. **Brown**. The FBIS is doing that?

Dr. **Moore**. Yes.

Mr. **Brown**. That is, of course, part of any prudent program for helping the market understand what is available, and to make better use of it. I could use something like that myself, rather than trying to thumb through every one that comes to me.

Dr. **Moore**. Like you, I used to receive their foot of materials a month. It is just too much to possibly absorb usefully. This new service of theirs, I think, is a great improvement.

Mr. **Brown**. What I think we want to do in this hearing is to see all of the parts of the picture, and see if we are trying to bring some coherence into this process by which we are collecting, and making more readily accessible, the scientific and technical production from other countries, as well as our own.

Having wrestled with the problem of technology transfer over the last 20 years, just from Government-funded research and Government laboratories to our own domestic community, I recognize that it is a very complex affair.

The point that has been made, rather repeatedly over the last few days, is that we have not yet developed the coherent policy structure which is a part of the purpose of the Executive Order, I am sure, for improving this process.

I want to try and make sure that we are looking at all aspects of it. I think the collection process as being done through the intelligence agencies is probably significant. I do not know whether that is being duplicated or not.

We had testimony yesterday as to the collection operations of the Chemical Abstracts people, the American Chemical Society. One of the question that arises is the degree to which you and your coordinating efforts, under the Executive Order, and the study that SRI is doing is examining how this coordinates with the activities being done in the private sector, through Chemical Abstracts or any other comparable operation by other professional societies.

Are we looking at the total picture here? That is the question that I am trying to get at.

Dr. **Moore**. I think that total picture has been looked at. I think SRI's task now is to design this pilot project that will look at those kinds of information where the Government, and the agencies that are involved in this, have a comparative advantage—shall we say—in the sense that they have the resources to produce [illegible] transmit information that, say, the American Chemical Society [illegible] not do in its efforts.

The American Chemical Society, of course, abstracts journals. The State Department and the National Science Foundation, and the Commerce Department, have people stationed overseas who are in positions to report on developments there, to provide information on policy developments, on science budgets, and so on and so forth, that an organization like the American Chemical Society does not do, for whatever reason—probably because it is not interesting to their subscribers.

At this point, I think what we are trying to do is develop a service that will essentially complement services that are being performed by other people.

Mr. **Brown**. Good. Mr. Negroponte?

Ambassador **Negroponte**. If I could just amplify one point there. I think it is not only to complement, but it is to make better use of the information and reporting that we already generate. I think we do have a lot of collectors out there, if you will, reporting back to their own agencies.

We have never really focused, or have not focused enough, on how to make the most sense out of that, and figure out the best possible way to disseminate it back to potential users in the United States.

One other point, Mr. Chairman. This pilot project is going to address, in addition to identifying priorities for our people out there to focus on and a mechanism for dissemination, we are also going to try to build in a feedback system, so that we do get feedback from the users in the United States, to the effect of whether such reporting might have been more useful had it been done in such a way; or a particular set of reports were particularly useful, could you keep that particular reporting up or accentuate it.

Mr. **Brown**. Mr. Coyne?

Mr. **Coyne**. Yes, Mr. Chairman. I would like to indicate that some progress, indeed, has been made in the areas that both Dr. Moore and Ambassador Negroponte have commented on. In at least two areas, as a result of this system that we are using within the Department of Energy, the CO_2 and the superconductivity areas—progress has been made.

In both areas, through the uniqueness of our system, we have been able to provide back to the people who are working overseas knowledge on who is doing what in both areas. First, concerning the CO_2, the question is in the International Energy Agency, what kind of program should be undertaken by those member countries?

How much money should be spent? We are able to provide, through the intelligence of our system—it is not only a technical information system, it also contains a great deal of intelligence—we are able to show what other countries have done in terms of investment in prior years. We may hear a lot about other countries' concerns, but how much have they actually done?

We can show how much they have done, and how much their commitment has been, in order to better negotiate arrangements on collaborative R&D. That is the benefit of this kind of universal information gathering.

Mr. **Brown**. By the CO_2 problem, you are talking about the atmospheric effects of increasing concentrations of CO_2?

Mr. **Coyne**. Yes, sir.

Mr. **Brown**. That, of course, has widespread ramifications on climate and desertification. So the research picture—

Mr. **Coyne**. Yes, sir. We are dealing with the clean coal problem. It has ramifications across the board, of course. Not to say one way or another, but the information and the data are there for the U.S. people to examine and make better decisions.

Mr. **Brown**. All right. The Chemical Abstracts operation, as you pointed out, is one of abstracting journals. I presume that most fundamental research anywhere around the world ultimately ends up in a journal somewhere. If we had an adequate process of reviewing all of the journals, and making them available, in some form or another, that would give us a pretty good handle on what is being done in fundamental research.

257

What is outside of that? What kinds of things are we talking about that do not go into journals? Go ahead, Mr. Coyne.

Mr. **Coyne**. I would like to suggest, sir, that there is a very significant amount of information that is not in the journal literature. About half the Department of Energy's $5 billion per year budget appears in technical reports rather than journal literature.

There is a significant amount of information that continues to locate at national laboratories, in terms of factual and numeric data, that are very important. That information cannot be immediately reported through journal literature or technical reports.

If there were some mechanism of communicating research among researchers it would be very effective in improving the productivity in the economic channel.

Mr. **Brown**. I am trying to get a mental picture of the relative roles of these things. You have the journal material; you have the technical reports. The NTIS collects basically the technical reports emanating from Federally-funded research and development contracts.

It is not journal material, but technical reports; even those which, perhaps, are not printed as technical reports, but are merely submitted in terms of the requirements—say 50 copies to the agency that contracted it—and it goes into your databank.

I need to understand, and I want the Committee record to reflect the importance of these various segments of the information base that we are concerned about here, if we can do it.

Dr. **Moore**. Could I add just a comment in this vein?

Mr. **Brown**. Sure.

Dr. **Moore**. Besides the published data, and the information that is published in the journals, and the technical reports, there are some other aspects that I think we need to keep in mind. I think it is important that we know something about work in progress—that is not in any reports, and is not in any published journal articles.

As you know, the timing is becoming extremely important in these things.

Mr. **Brown**. We used to have a system for reporting that, didn't we?

Dr. **Moore**. I do not know; but it would not be a bad idea.

Mr. **Brown**. I thought it was a good idea at the time.

Mr. **Moore**. Obviously, to know something after it has been published in the journals is very often too late.

Another aspect, I think, is important from time to time, is to do an assessment of the strengths and weaknesses of some other countries in particular areas that may be of special interest.

I will not mention superconductivity, but there are also many other topics where we would like to know where the strengths are in a particular area. That is something that does not appear in journals.

Mr. **Brown**. No. That kind of reporting is extremely important. Mr. Negroponte, is that the role of the State Department, who will have analysts in each of the major countries, and whose role, presumably, is trying to evaluate the total effort in science and technology; either in total, or in specific fields of importance to the United States?

Ambassador. **Negroponte.** I think that is one of the functions of the science officers overseas, Mr. Chairman. Science officers have a multiplicity of functions, including following science policy issues; knowing how the host government is spending their science budget; what their science priorities are.

Of course, there may be specific bilateral S&T issues that have been elevated to the level of political or diplomatic problems with those countries. The science officer's plate is pretty full.

But clearly one of their jobs, and I think this would probably be true of the NSF representatives and the other science agency representatives abroad, is to identify areas of excellence being pursued in those particular countries, keep the Washington community abreast, and help them understand enough about what is going on in the country in those fields so that we can decide whether we want to devote more resources to getting a more detailed understanding of scientific developments in those countries.

Mr. **Brown.** How does that kind of reporting and analysis get out into the stream of information so that it is accessible by others in the scientific community, outside of the bureaucracy?

Ambassador **Negroponte.** I think you are zeroing in on exactly the kind of reporting that—at least one type of reporting that this SRI pilot project is going to have a look at, as to how can some of this Government-generated reporting of the analytical type be made more useful and more accessible to the private sector?

Dr. **Moore.** If I may comment also on this particular point? In the CISET working group that I mentioned in my opening statement, there was a good deal of discussion of exactly this problem, and some rather lengthy discussions about strategies for approaching it.

I think it is important to, again, focus on the needs of a particular group. For example, if you're going to work in materials—say in ceramics or something of that sort—you want to know who it is that is going to be interested in that information; and then, I would say, deliberately design a study to meet the needs of that particular group, and then get the results of the study to that group—obviously with their participation.

Mr. **Brown.** I was going to raise this problem. The Chemical Abstracts does not go around identifying all the chemists who are going to be interested in a particular research field. They do the job of collecting the material, putting it into their databank—which is available on-line—and it is up to the chemists to search that, and determine what it is that they need.

A more aggressive policy is probably needed when you get outside of a particular discipline field, and you want to make sure—let's say the industrial community—has access to a particular field of research. That requires what you might call some marketing, or technology transfer initiatives, that do not come about through the usual research process.

Is that what you are trying to accomplish?

Mr. **Moore.** Yes, and I would point out a couple of things in that regard. In my testimony, I mentioned the recommendation of that working group, that the agencies use their advisory committees to provide them with suggestions about things that should be done.

This is one of those areas where advisory groups—say, to the Commerce Department, to the State Department, to the National Science Foundation—can provide recommendations on areas where an assessment—a state of the art assessment—is needed.

As you know, we also have the National Research Council that is available to do exactly that. They do it, quite frequently, on the recommendation of the members of the Academies,[54] and also on the recommendations of agencies that are affected in these fields.

Mr. **Brown**. This is a very tough job that you are talking about here, and I say this just based upon efforts that we have been trying to make at NASA and the Department of Energy, and other places, for years; to get the fruits of the knowledge generated through their programs out to user communities; whether it is industrial communities, or state and local government organizations, or whatever.

It has not proven to be a very easy problem to grapple with. Mr. Coyne?

Mr. **Coyne**. I'd like to comment, Mr. Chairman, on a pilot project going on in the Department of Energy with respect to the superconductivity research.

After some of the recent breakthroughs that took place in the New York meeting,[55] it was determined that there needed to be improved communication among researchers in the U.S. in order to take advantage of them.

The Department of Energy has taken the lead in establishing a real-time information system for researchers in this field, and what it consists of is a very interesting system.

We, as of July 6, I believe—within 30 days of the determination by the Secretary of Energy that we should do this—are now providing information on [a] real-time basis. It includes communication among all known superconductivity type people in the U.S.

And how you define that is not easy, but we are trying to do it. We have started with the DOE, where the primary research was done on rare earths and so on. We are expanding that to our DOE prime laboratories, and eventually we will expand that to U.S. industry.

It consists of very interesting information—who are the researchers in the business, where are our meetings going on in the world of superconductivity?

I noticed—yesterday morning, I was scanning the file on this electronically, and noticed that Japan has at least two meetings scheduled on superconductivity in very interesting areas within the next few months.

It contains information, not on published literature, but on preprints—information before publication, as Dr. Moore was suggesting; a very critical area.

Before information gets into the journals, let's share among the U.S. community what we know about what's going on.

---

[54] The National Research Council is the action arm for the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine.

[55] Mr. Coyne is referring to the annual meeting of the American Physical Society, held 18 March 1987 at the New York Hilton hotel. See *Time* (11 May 1987, p. 64) for a description of the session dealing with advances in superconductivity.

It consists of information on meetings within the U.S.; and it permits the sharing of notes on research work in progress, again a critical factor.

We can now share work in progress in terms of communicating among scientists about what's going on, where the critical factors are, and that sort of thing.

It's a trial program; we hope it works, but if it does work, it has the transferability into a whole number of areas of importance.

Mr. **Brown**. It sounds to me like you are talking about a gigantic electronic bulletin board of the sort that is——

Mr. **Coyne**. We're talking about a huge system that permits intertransfer among Government files, among private sector files; moving, sharing of data, pulling it in and out—the whole thing. We've done a lot of work on this.

Mr. **Brown**. Well, one trouble I would see with that effort, and I am just fantasizing a little here, is that you don't even know what research may be relevant to these breakthroughs in superconductivity. There may be, for example, some new breakthrough in a manufacturing process for dealing with the kind of materials that you are talking about.

You may not know how to even envision the kind of a manufacturing breakthrough that is necessary for the economical production of a new kind of exotic material that has never been produced before.

Mr. **Coyne**. That's true.

The Department of Energy, the Department of Commerce, the Department of Defense, the National Science Foundation, as I understand it, are discussing the establishment of centers of excellence in this particular area. I know of three in the Department of Energy, and I know of several in those other agencies that are being established to try and focus on that.

And this communication system that I've just described will permit the influx and the outflow of that data.

Mr. **Brown**. Well, this is—I consider that a very important pilot plan.

Mr. **Coyne**. By the way, it includes data from other countries, sir.

Mr. **Brown**. Yes.

The thing we have to get to, of course, from a pilot project, or a study in a limited area, is the generic principles which will allow for the improvement of the entire process. And that, of course, is what has bothered me and the members of this Committee for a long time.

We haven't seemed to look at this problem of dissemination, collection, dissemination, and massaging of scientific and technical information as a coordinated system, as a process that needs to be looked at in a general way in order to improve the productivity of the entire system.

We had some witness yesterday—and I have forgotten who it was—but who said in investigating the situation in regard to the translation of Japanese literature, he found some surprisingly large number of different agencies engaged in this with little, if any coordination.[56]

---

[56] Mr. Brown refers to Dr. Shill's testimony.

Now, that's the kind of problem that bothers me because the translation, the distribution, the identification of the areas which we ought to be translating ought to be looked at as a coherent whole here, and this is what we hope will result from the kind of interagency activity you gentlemen are describing.

Do you wish to comment on that? You look like you ought to comment, Mr. Negroponte.

Ambassador **Negroponte**. I——

Mr. **Brown**. You're responsible for all Japanese translations.

Ambassador **Negroponte**. I disagree—I mean I agree with everything you have just said, Mr. Chairman. I would hope some improvements would result, and I think that is part of the reason for setting up these Science Councils at these embassies where we do have a large number of people from a variety of technical agencies.

I was amazed at how many people showed up at a breakfast that was organized for me when I went out to the embassy in Tokyo to meet all the people from different agencies who work on technological issues within that single embassy.

So, surely more coordination is needed without, at the same time, doing violence to the specific, legally-mandated charter of each of the agencies involved.

Mr. **Brown**. We have to respect our various turfs, don't we?

Who was responsible for the momentum that resulted in the Executive Order that we've been talking about?

Was there—can any of you identify how that came about?

Mr. **Coyne**. No response.

Mr. **Brown**. Was it the science adviser who——

Ambassador **Negroponte**. I believe it was an initiative of the Economic Policy Council, Mr. Chairman.

Mr. **Brown**. Of the Economic Policy Council.

Ambassador **Negroponte**. And chaired by the Secretary of the Treasury.

Mr. **Brown**. We're seeing a recognition of the relationship between economics and science and technology.

Could I—I'm not going to—we have a roll call on, and I'm going to excuse the panel shortly, but could I make one request to all of you gentlemen, and it stems from the testimony that we've had, both at this hearing and many others.

That there is a lack of adequate attention and focus on this problem at the Executive Office of the President, and specifically in accordance with the mandate of the Science and Technology Policy Act of 1975, or whenever it was that we passed it.

Could we get you to interact through whatever channels you may have to impress upon the Executive Office of the President that that is a reasonable focus for the policymaking activities here, and that they have all the legislative tools that they need to carry it out adequately?

Ambassador **Negroponte**. In fairness to that Office, Mr. Chairman, I think as far as the specific issue of the science and technology component of the Executive Order on competitiveness that the prime mover in that particular endeavor was the Office of Science and Technology Policy.

Mr. **Brown**. All right.

I want to express my appreciation to all of you for your cooperation this morning. It has been very helpful, and I apologize for the rather disorganized way we've treated you, but it all contributes to our education.

Thank you.

The Subcommittee will be adjourned.

[Whereupon, at 12:09 p.m., the hearing was adjourned.]

APPENDIX I

INFORMATION DISSEMINATION IN THE FEDERAL GOVERNMENT

AUTHORS:

Andrew M. Sherman
Dale M. Sienicki
Office of Policy

U. S. GOVERNMENT PRINTING OFFICE
OFFICE OF THE ASSISTANT PUBLIC PRINTER (PLANNING)
STRATEGIC PLANNING ISSUE BRIEF SYSTEM

November 1983
(rev. June 1984)

For additional information call 275-2668

84-03

EXECUTIVE SUMMARY

In accordance with a memorandum from the Public Printer dated August 23, 1983, the Planning and Documents areas examined information dissemination in the Federal Government, in particular the scope and cost of existing Federal Government information dissemination mechanisms that duplicate, to some extent, the information dissemination activities/programs and capabilities of the Government Printing Office. The study attempted to determine (1) the dimensions of the Federal Government's information dissemination capability; (2) the problems associated with these information dissemination activities; and (3) the possible scope of solutions to these problems.

Findings: The study identified 359 Federal information dissemination facilities currently in operation, excluding the dissemination programs of the Superintendent of Documents. Each of these facilities uses various approaches to disseminate information to the general public and/or targeted audiences, approaches which, to some extent, duplicate GPO functions. These facilities are divided among 6 different organizational types:

Type of Organization	Number
Clearinghouses	69
Special Libraries	80
Document Depositories	79
Information Analysis and Referral Centers (technical and non-technical)	124
Agency Direct Sales/Free Distribution	7
Total	359

The study team also identified 90 on-line, interactive data base systems developed by agencies of the Federal Government which are available to the public. These systems provide services to the public that are conceivably within the capabilities of the GPO. For each of the 449 facilities and systems, the study team sought to identify the facility/system parent agency, location, agency contact, budget/funding code, authorizing legislation, and facility/system description.*

The study team was able to identify recent cost and budget data for 17 information dissemination activities and programs. These facilities, which represent roughly 5 percent of the Government's information dissemination activity, operated with a combined total of $109.8 million in budget authority in FY 1982. At this time, it is virtually impossible to determine the total amount of annual funding allocated to the Federal Government's information dissemination activities with any degree of precision. Because these activities are viewed as adjuncts of their parent organizations, rather than as elements of a unified program to make Government information available to the public, cost and budget data routinely are buried in broad program funding categories.

---

*N.B. The primary source for the identification of the 449 Federal information facilities and systems was Federal Information Sources and Systems (U.S. General Accounting Office, Congressional Sourcebook Series, 1980 and 1983). The 1983 data base was unpublished at the time this study was conducted.

Recommendations: The study determined that no comprehensive survey of the scope, cost, and appropriateness of the Federal Government's publicly-oriented information dissemination activities has been conducted in recent years. Thus, given the absence of comprehensive cost data and other necessary information, no definitive answer concerning the feasibility and potential advantages of consolidating these activities can be provided without further in-depth investigation. It is therefore strongly recommended that a survey of Government information dissemination activities be conducted by an appropriate arm of the Federal Government to identify those activities that have the greatest commercial viability. In those areas where continued Federal involvement is deemed necessary, there should be an analysis of the "best" structure for providing dissemination service. This analysis will involve:

(1) the development of consistent and complete cost-accounting systems that permit objective measurement of the cost of Federal information services, both for those operated by the Government and those operated by contractors;

(2) the assessment of the full cost of performing similar activities, such as document delivery, through the large Government-supported information systems (e.g., NTIS and GPO) and at the clearinghouses, to determine which type of organization has lower per unit costs;

(3) a determination of the management and administrative costs of the current Federal system and the potential for savings through consolidation;

(4) an examination of the output of both types of organizations to assess differences in their ability to meet users' needs; and

(5) an identification of all instances of overlap, duplication, and competition, and, where advantageous, the development of appropriate strategies to eliminate such conditions.

As an addendum to these recommendations, it should be noted that GAO has in the past taken an interest in this area, and began a study similar to that recommended above. Other considerations, however, forced a postponement of the project. In the apparent absence of other interest in the subject of Federal information activities, the study recommended will venture into virtually uncharted territory, a territory in which, in our opinion, effective management is long overdue.

Conclusion: The proliferation of Federal information dissemination mechanisms noted in this Issue Brief clearly indicates that managing the dissemination of information does not have a high priority within Federal departments and agencies. Little attention is paid to coordinating information dissemination across agency lines. There are no Government-wide policies for its coordinative management, nor is there an effective central focal point for establishing such policies. Federal agencies' cost recovery policies and practices are not consistent. Confusion exists as to the application of cost recovery principles as stated in Federal law. Cost accounting for information dissemination services is inadequate.

A need exists for a Government-wide coordinating mechanism to address the issues and recommendations raised in this Issue Brief. To be effective, such a mechanism must have some degree of permanence and continuity; have a formal channel to a strong, central focal point; and receive strong support and leadership from the policymaking level of Government. With these prerequisites in place, it could effectively formulate and catalyze the implementation of comprehensive policies to (1) reduce the unnecessary duplication, overlap, and competition in the Federal Government's information dissemination programs; and (2) stimulate the development of consistent cost recovery practices throughout the Government.

With respect to the latter policy initiative, clearly one of the most effective ways to exercise managerial control over Federal information services is through a carefully administered program of cost recovery which will, to the extent possible:

(1) help assure that only needed services are provided;

(2) transfer the responsibility for financial support to the users who directly benefit from the information services;

(3) stimulate the development of realistic cost accounting;

(4) improve decisions by users seeking the most cost-effective information sources; and

(5) eliminate Government subsidies to information linkage organizations competing with the private sector.

Based on its multi-media dissemination and outreach programs and capabilities, the Government Printing Office should play an active role in the development and administration of a Government-wide coordinating mechanism for bringing about improvements in the way the Federal Government manages its information dissemination facilities and systems.

INTRODUCTION

The information sector has become, and will continue to be, increasingly important to the U.S. economy. The Federal Government's involvement is substantial and the capability of the private sector has been growing rapidly. As Federal information expenditures increase, so does the need for sound management of information activities, this to avoid duplication of service between the public and private sectors and among Government agencies, to provide ease of accessibility to sources of information, and to recover the cost of providing these services. In recognition of these concerns, the Office of the Assistant Public Printer (Planning) conducted an analysis of the scope and cost of one segment of Federal information activities: information dissemination.

The purpose of this Strategic Planning Issue Brief is to explore the subject of Federal information dissemination mechanisms at a depth sufficient to give the reader a good idea of: (1) the dimensions of the Federal Government's information dissemination capability; (2) the problems associated with these dissemination activities; and (3) the possible scope of solutions to these problems.

INFORMATION LINKAGE ORGANIZATIONS

Information resource organizations in the Federal Government serve an "information linkage" function that informs researchers, managers, practitioners, and/or the public about research findings, programs, and practices. As linkage agencies, they may also interpret the information for the needs of specific target audiences or assist those target audiences in utilizing the information in programs and practices.

Butler and Paisley (1974, pp. 30-31) have described three roles the information linkage agent may play:

(1) Resource finder: A linkage agent who serves as an intermediary between a client organization, or individual, and information resources and who conducts information searches, finds answers to clients questions, and disseminates this information to the client organization or individual.

(2) Process facilitator: An agent who becomes involved in the actual problem of the client organization, or individual, to assist in resolving technical and/or interpersonal problems. The process facilitator remains neutral about the problem and the selection of a solution.

(3) Solution giver: An agent who assists the client organization, or individual, in implementing a specific solution to a technical or interpersonal problem. The solution giver is often associated with an R & D organization or other product developer whose reputation becomes part of the solution giver's credentials.

There are many different types of information linkage organizations (ILOs) in the Federal Government today, each performing one or more of the three linkage roles. These organizations include, but are not limited to, special libraries, document depositories, information analysis centers, clearinghouses, information and referral centers, resource centers and networks, and technical assistance centers.

This study concerns itself primarily with the following Federal ILOs, aspects of which duplicate the information dissemination activities/programs and capabilities of the Government Printing Office:

(1) clearinghouses;
(2) technical information analysis and referral centers;
(3) special libraries;
(4) agency direct sales/free distribution to the public;
(5) non-technical information analysis and referral centers;
(6) document depositories; and
(7) on-line interactive data base systems.

Findings with respect to the scope and cost of each of these ILOs are contained in the next 8 sections of this issue brief. A profile of the information dissemination programs of the Superintendent of Documents is presented in Appendix I.

Clearinghouses

General Description. Clearinghouses, such as the ERIC Clearinghouse on Adult Education and the National Criminal Justice Reference Service, perform three fundamental functions: (1) input; (2) information analysis; and (3) dissemination and user services. The input function encompasses identifying, selecting/scanning, acquiring, processing and storing documents and other types of materials within the scope of the clearinghouse, and providing locator tools (e.g., indexes) to the collected items. The information analysis function involves synthesizing and distilling information and preparing publications such as bulletins, announcements, bibliographies, directories, state-of-the-art monographs, and handbooks for specific target audiences. Dissemination and user services are designed to initiate contact with one or more target audiences, heighten their awareness of available information, and directly meet their information needs. To accomplish these objectives, clearinghouses announce advances in research, distribute their information analysis publications and copies of materials from the clearinghouse collection, respond to requests for information, link users to other sources of information, and/or provide on-site library services.

As will be seen, other types of ILOs may perform some of these functions. However, generally speaking, they do not perform all of them. Some other ILOs perform additional functions not traditionally associated with clearinghouses, such as on-site consulting and technical assistance or compilation and manipulation of statistical data.

Clearinghouse Criteria. To assist in distinguishing between clearinghouses and other types of ILOs, a set of seven screening criteria was developed in 1981 by Applied Management Sciences (AMS) in cooperation with Cuadra Associates, Inc., as part of a two-year study of human services information clearinghouses in the Federal Government. AMS determined that an organization had to meet all seven of the following criteria to be classified as a clearinghouse:

1.	SPECIFYING A FOCUS	Must define its focus in terms of a specific subject area (field, area of inquiry, area of service, or topical area)

		and target audience. An organization that collects information on all topics would not be considered a clearinghouse.
2.	ACQUIRING LITERATURE	Must actively engage in the acquisition of literature-based information related to its focus or maintain a database representing records of literature-based information resources. Note that "literature" is broadly defined to include audiovisual materials, speeches, descriptions of organizations or programs, etc.
3.	DEVELOPING AN ORGANIZED COLLECTION WITH APPROPRIATE ACCESS TOOLS	Must process and organize the acquired information into a collection with index and other tools to provide for systematic search and access. (These tools do not have to be in computer-readable form.)
4.	ACCEPTING INQUIRIES	Must be willing and able to accept individual inquiries made by telephone, in person, or in writing. The essence of this condition is that the clearinghouse holds itself out as welcoming individual inquiries and establishes minimal requirements related to the form of the inquiry.
5.	RESPONDING TO INQUIRIES IN A NONSTANDARD FASHION	Must be willing and able to respond to individual inquiries in a form appropriate to the inquiry. This requirement excludes information service operations in which only "standard," nontailored responses are available.
6.	PROVIDING A SEARCH CAPABILITY	Must be willing and able to conduct systematic searches of its information collection in response to a specific individual's inquiries. The essence of this condition is that the database cited in the third requirement must be available to serve individual users, as well as to support publishing activities.
7.	ENGAGING IN OUTREACH AND DISSEMINATION	Must have: (1) an outreach program that communicates with potential users of the clearinghouse through public relations, advertising and/or needs assessments; and (2) a dissemination component that periodically informs the target audience of information available in, or from, the

clearinghouse. This implies that the organization maintains a current mailing list of potential users. Merely having available descriptive material on the organization and its products and service does not constitute outreach and dissemination, as used here.

Based on these criteria, 69 federal clearinghouses have been identified (see Appendix II).

Technical Information Analysis and Referral Centers

Technical information analysis and referral centers, such as the National Geodetic Survey Information Center of the National Oceanic and Atmospheric Administration, perform most of the functions of a clearinghouse but differ in the type of information collected and produced. Whereas clearinghouses produce bibliographies, abstracts, and/or state-of-art monographs intended to increase awareness about source documents, information analysis centers typically provide researchers and scientists with technical answers to inquiries and compile data in the following fields of science: physical sciences; mathematics; computer sciences and engineering; environmental sciences; engineering; life sciences; psychology; social sciences; technology assessment and science policy; and education data bases. These facilities are designed to analyze data, establish reference standards, and report their analyses. Because of the differences in emphasis, information analysis centers also differ from clearinghouses and special libraries in terms of the types of personnel required to operate them. Clearinghouses and special libraries tend to be staffed by information specialists, while information analysis centers require subject specialists capable of conducting detailed technical analyses, synthesizing technical findings, and responding quickly to technical questions from the field.

A total of 117 technical information analysis and referral centers have been identified in the Federal Government today, based on the criteria noted above. Appendix III presents a list of these Federal information service facilities.

Special Libraries

Special libraries are, by tradition, Federal information service facilities whose collections are restricted to a specific scope. Nearly all specialized libraries acquire literature and accept and respond to individual inquiries; many also provide the capability of searching their collection in response to inquiries. However, special libraries generally do not perform the outreach and dissemination activities characteristic of a clearinghouse.

A total of 80 special libraries have been identified, based on the criteria discussed immediately above. Appendix IV presents a list of these information service facilities.

Agency Direct Sales/Free Distribution to the Public

Many federal agencies, in the routine discharge of their missions, issue regulatory, advisory, technical, scientific, administrative, educational, and informational publications. Although GPO and NTIS play the major role in distributing this information, agencies often operate publications and inquiry centers of their own. Seven such facilities have been identified, and are presented in Appendix V.

Non-Technical Information and Referral Centers

Non-technical information and referral centers tend to maintain a collection of agency names and referral sources rather than literature because their primary function is to link individuals seeking information with the appropriate service agency. GSA's Federal Information Centers and Business Service Centers, and the Library of Congress' National Referral Center are the major information and referral centers in the Federal Government today (see Appendix VI for all 7 identified).

Document Depositories

The terms "document depository", "document depot", and "public documents reference room" have been used alternatively to describe organizations that serve as archives for the purpose of responding to inquiries, usually with full text copies of documents. The Public Reference Room of the Federal Maritime Commission and the Public Document Room of the Nuclear Regulatory Commission provide examples of such organizations. Document depositories tend to be more limited in their range of functions than clearinghouses, technical information analysis and referral centers, and special libraries. Although they collect literature, they tend not to be selective in their acquisition policy but rather receive and accept all documents forwarded by established sources. They also tend to be broad in coverage rather than concentrated on a specific area.

A total of 79 document depositories have been identified based on the criteria noted above. Appendix VII presents a list of these information service facilities.

On-line Interactive Data Base Systems

Federal on-line data base services are designed to help subscribers keep abreast of the vast amounts of computer-readable data available for interactive access by users from remote computer terminals. These data bases contain numeric, textual, or combinations of numeric and textual information in a wide range of subject areas. Ninety on-line data bases developed by agencies of the Federal Government have been identified. In some instances, both the public and private sector have worked together to develop these services.

The criteria applied in selecting a data base for inclusion in this study are as follows:

(1) It must be available on-line (i.e., not just available in computer-readable form) for use in an interactive mode.

(2) It must be available to the public, or to organizations that can establish their eligibility through subscriptions or membership.

Appendix VIII presents a listing of these 90 systems.

INFORMATION DISSEMINATION COSTS

This survey of Federal information dissemination activities specifically identified 359 facilities and 90 on-line interactive data bases that currently are available to the public. Seventeen facilities operated at an annual cost of about $109.8 million in FY 1982. Of these 17 facilities, 3—the National Technical Information Service, the National Library of Medicine, and the National Agricultural Library—are among the largest of the Federal Government's information linkage services. Nevertheless, the costs identified by this study most likely represent only a fraction of the total annual operating cost of the Federal Government's information linkage organizations, excluding GPO's Superintendent of Documents programs.

At this time, it is virtually impossible to determine the total amount of annual funding allocated to the Federal Government's information dissemination activities with any degree of precision. Comprehensive research indicates there is no single Federal agency, inter-agency program, or private sector group which regularly collects standardized cost and budget data from all Federal information dissemination activities. Despite the growing interest in dealing with all Federal information dissemination activities within the framework of a unified program, rather than as separate and highly differentiated components of individual Federal agencies, a single, regular, and reliable Federal information dissemination cost and budget reporting system has yet to be devised and implemented. Optimally, such a system should report (1) program financing for each activity by personnel, administrative and other overhead, printing and reproduction, ADP, inventory storage and management, order processing and fulfillment, and marketing and mailing cost categories; and (2) the relationship of program financing for each activity via public funds versus financing via user fees or other offsetting collections.

What Federal information dissemination cost data exists is haphazard and sketchy. Cost and budget data published annually by OMB in the U.S. Budget Appendix, for example, rarely address specific information dissemination facilities. Except for such large facilities as the National Agricultural Library and the National Library of Medicine, cost data for most information dissemination activities are buried in broad program funding categories, most commonly "administrative," "management," and "technical" support. The fact that Federal information dissemination activities are rarely accorded single line items in the Budget Appendix testifies to the prevailing view of information dissemination activities as adjuncts of their parent organizations, rather than as elements of a coordinated effort to make Government information available to the public by the most efficient and cost-effective means possible.

Other available information dissemination cost data have resulted from the 1967 "Federal Printing Program: Report on a Study Conducted by the Joint Committee on Printing;" the 1979 GAO report, "Better Information Management Policies Needed: A Study of Scientific and Technical Bibliographic Services;" and the 1981 AMS study of human services information clearinghouses. Unfortunately, the applicability of the data produced by these studies to the present study is limited.

The results of the 1967 JCP study, for example, have long been superseded by the proliferation and diversification of Federal information dissemination activities since the study was conducted, and by the age of the cost data. The 1979 GAO report confined itself to surveying scientific and technical bibliographic services only, and only in five agencies. Even under these limited circumstances, the Comptroller General was compelled to observe that the absence of reliable cost records made it impossible to accurately determine the total costs of the surveyed activities. In the 1981 AMS study, the study team deemed it necessary to issue several disclaimers in its discussion of the funding characteristics of 22 surveyed clearinghouses. Among these were caveats that "budget data provided by the clearinghouses were neither entirely consistent nor complete," and that some clearinghouses provided no cost data at all (AMS, p. 7.5).

Despite these drawbacks, some of the conclusions drawn by previous studies can be applied to the funding characteristics of Federal information dissemination activities today:

(1) Growth in cost: There is no doubt that the number of such activities and their attendant costs have grown significantly since the 1967 JCP study was published. Excluding GPO, the JCP found that there were 408 Government information distribution and clearinghouse facilities operating at an aggregate cost of about $40 million in FY 1964, the period during which study data were gathered. Of the 408 facilities, however, at least 188 distributed information to the Government only (e.g., classified information), or listed the Government as their primary constituent. The total operating cost of these facilities was about $21.5 million in FY 1964. Thus, there were 220 facilities operating at a total cost of approximately $18.5 million in FY 1964 that served the public only, the Government and the public, or which did not identify specific user groups. As noted above, the present study specifically identified 359 facilities and 90 on-line interactive data bases that currently are available to the public, 17 of which operated at an annual cost of about $109.8 million in FY 1982.

(2) Cost reporting: Both the 1979 GAO report and the 1981 AMS study, as noted above, indicated a general absence of standardized, accurate, and ongoing cost reporting for Federal information dissemination activities.

(3) Expense by function: Among the reporting facilities, the 1981 AMS study found that user services and technical processing received the highest proportions of facility operating budgets, and that the proportions of the budget expended for processing tended to be highest among the facilities that had publicly available data bases.

(4) Cost recovery: The 1979 GAO report found that the information dissemination activities it surveyed recovered only about 15 percent of the costs they attributed to user services. While the 1981 AMS study found that most of the facilities it surveyed charged a fee for at least some publications or services, few facilities operated on a full cost-recovery basis, and only one of the 22 facilities in their sample recovered all costs plus a margin for profit.

Shown below is a breakdown, by information dissemination activity category, of the identifiable activity operating costs for the most recent budget cycle. Where costs are not identified, the costs either were buried in other programs for that particular year or were not proposed.

Clearinghouses

Number of facilities identified: 69

Number of facilities for which costs were identified: 6

Clearinghouses: Budget Authority
($ in 000's)

		FY 1982 Actual	FY 1983 Estimated	FY 1984 Estimated
DOC:	National Technical Information Service	$ 23,251*	$ 27,000*	$ 29,000*
HHS:	National Clearinghouse on Aging	591	---	---
DOE:	National Energy Software Center DOE Technical Information Center Resource Applications Technical Information Center (combined)	15,292	15,579	---
Civil Rights Commission:	National Clearinghouse Library	460	458	461
	Total Identified Costs	$ 39,594	$ 43,037	$ 29,461

* Costs before offsetting collections. Majority of costs (approximately 80 percent) are offset by collections from non-Federal funds.

Technical Information Analysis and Referral Centers

Number of facilities identified: 117

Number of facilities (programs) for which costs were identified: 4
(In most cases, program data, rather than specific facility data, were the only available data.)

Technical Information and Referral Centers: Budget Authority
($ in 000's)

	FY 1982 Actual	FY 1983 Estimated	FY 1984 Estimated
USDA: Foreign Market Information and Access Program	$ 11,329	$ 9,866	$ 10,346
DOC: Dissemination of Technical Information Program	---	1,880	---
Patent Office: Information Dissemination Program	---	15,332	16,738
DOE: Tech. Services Information Program	---	---	14,100
Total Identified Costs	$ 11,329	$ 27,078	$ 41,184

Special Libraries

Number of facilities identified: 80

Number of facilities for which costs were identified: 4

Special Libraries: Budget Authority
($ in 000's)

	FY 1982 Actual	FY 1983 Estimated	FY 1984 Estimated
USDA: Food and Nutrition Information Center	$ 588	$ 448	$ 450
USDA: National Agricultural Library	8,053	8,732	9,873
HHS: National Library of Medicine	45,035	46,043	49,616
DOT: Library	2,482*	3,354*	2,696*
Total Identified Costs	$ 56,158	$ 58,577	$ 62,635

* Costs before offsetting collections. Majority of costs (approximately 90 percent) are offset by collections from Federal funds.

Agency Direct Sales/Free Distribution to the Public

Number of facilities identified: 7

Number of facilities for which costs were identified: 3

Agency Direct Sales/Free Distribution to the Public: Budget Authority
($ in 000's)

	FY 1982 Actual	FY 1983 Estimated	FY 1984 Estimated
Civil Rights Commission: Liaison and Information Dissemination Program	$ 1,280	$ 1,182	$ 1,027
Civil Rights Commission: Publications Preparation and Dissemination Program	786	785	858
Library of Congress: American Folklife Cntr.*	667	761	834
Total Identified Costs	$ 2,733	$ 2,728	$ 2,719

*Dissemination activities are only one part of this facility's mission.

Non-Technical Information and Referral Centers

Number of facilities identified: 7

Number of facilities for which costs were identified: 0

Document Depositories

Number of facilities identified: 79

Number of facilities for which costs were identified: 0

On-Line Interactive Information Systems

Number of systems identified: 90

Number of systems for which costs were identified: 0

RECENT MANAGEMENT EFFORTS

Although the Federal Government spends billions of dollars to create, collect, store, and disseminate information, it has not, until very recently, paid much attention to information policies or how information activities are managed. Within the last 5 years, however, both OMB and the GAO have reviewed Federal information dissemination programs and offered management solutions to the problems identified. This section will elaborate on these efforts.

Proposed OMB Circular on Improved Management and Dissemination of Federal Information: On July 25, 1978, the Office of Management and Budget published (Federal Register, p. 32204) for public comment a proposed policy on the dissemination of scientific and technical information which results from Federal funds. The purpose of the proposed policy was to (1) establish that scientific and technical information which results from Federal funds shall, to the extent possible, be made available to the public; (2) require agencies to select that method for disseminating scientific and technical information which is in the best interests of both the agency and the Government; (3) require, with certain exceptions, that scientific and technical information be made available on a full cost recovery basis; and (4) require the National Technical Information Service in the Department of Commerce to maintain a central index of scientific and technical information which is available from the Federal Government.

The majority of the comments received by OMB supported the objectives of the proposed policy and provided suggestions on ways to improve the policy directive. Among these suggestions were:

(1) The policy should be clarified to assure a common understanding of its intent and requirements. In particular, it should be clearly stated that the policy does not mandate the use of the National Technical Information Service by Federal agencies for disseminating scientific and technical information.

(2) There should be a greater recognition of the role played by the Federal depository libraries and the private sector in providing public access to federally financed information.

(3) While there is a need to better manage federally financed scientific and technical information, it will be difficult to realize significant improvements without addressing some of the broader information policy issues. In particular, there is a need to establish a policy and organizational framework which will permit these issues to be addressed.

(4) Federal departments and agencies should be permitted maximum flexibility in managing their information resources, consistent with other program responsibilities. However, there is a need for greater central guidance and coordination.

(5) Cost should not become a barrier to public access to federally financed information. However, except when required by law, agencies should generally not be required to finance the dissemination of information beyond that required for mission accomplishment.

As a result of these suggestions major changes were made in the proposed policy. It was significantly expanded, and retitled "Improved Management and Dissemination of Federal Information." While the new policy still established an index of scientific and technical information to be managed by NTIS, it also addressed the issues of public access to all federally financed information, not simply information of a scientific or technical nature, and the establishment or expansion of information centers by Federal departments and agencies. The policy also proposed a set of principles to govern the dissemination of and public access to all federally financed information.

The preliminary policy drafts, however, did not culminate in a final OMB Circular. Recent discussions with personnel in the OMB Regulatory and Information Policy Office suggest that the proposed policy was overtaken by the passage of the Paperwork Reduction Act.

GAO Report to Congress: Concurrent with OMB's attempts at information dissemination policy formulation was an August 6, 1979, Report to the Congress by the Comptroller General of the United States, entitled "Better Information Management Policies Needed: A Study of Scientific and Technical Bibliographic Services." In its report on selected agencies' collection, storage, and dissemination of scientific and technical bibliographic information, GAO cited the need for better information management, and identified problems of duplication of services and facilities and failure to recover costs in the operation of scientific and technical bibliographic and numeric information systems.

GAO reviewed scientific and technical bibliographic activities in five agencies and found duplicative or overlapping data bases in the Federal and private sectors. Sixty-three percent of the information managers surveyed were aware of data bases similar to their own, but few had considered the possibility of consolidation. The Comptroller General commented that information managers have little incentive to prevent or eliminate duplication because information centers are not required to recover their costs of operation. He noted that Federal agencies' policies and practices for recovering the cost of providing bibliographic services to public and private sector users are not consistent with Federal policies and the Office of Management and Budget guidance. By way of example:

(1) Agencies generally did not charge for providing bibliographic services, but when charges were made, cost recovery policies were not applied consistently.

(2) Information centers recovered less than 15 percent of the costs attributed to providing services to outside users.

(3) Costs of bibliographic data services supplied to private organizations, which in turn sold them commercially, were not recovered equitably.

(4) Inconsistent practices in charging users were due partly to the difficulty in interpreting OMB's guidance.

(5) Most information managers could not identify the costs of providing bibliographic services.

GAO's survey of five agencies identified about $19 million in unrecovered costs. They suggested that the potential for annual cost recovery was several times greater because, at the time of their report, there were more than 200 Government information centers, and the lack of adequate records on costs made it impossible for managers to make reliable estimates.

In 1977 about three-fourths of all computer-readable, commercially available bibliographic records were maintained outside the Government. Nevertheless, GAO found, private organizations were concerned about competition from Government information centers. They contended that by not recovering the actual costs of services, Government centers were making information available to special groups at prices substantially below cost and, therefore, users were being subsidized by general tax revenues.

Regarding the recovery of actual costs of services, the Comptroller General recommended in his 1979 report that the Director, OMB:

(1) Work with the executive departments to develop a clear policy of cost recovery consistent with applicable statutes, so that departmental decisions on information charging are uniform and made with OMB approval.

(2) Require each department and agency to develop information on the cost of bibliographic and other information services to serve as a basis for carrying out an effective cost recovery program.

(3) Require each department and agency to implement the guidance in a manner which will achieve prescribed cost recoveries from users outside and within the Government.

(4) Examine special cost recovery problems which may be involved in pricing Government services to information retailers.

Several agencies responded to the Comptroller General's recommendations on cost recovery policy by agreeing that full-cost recovery principles should be applied wherever feasible, but added that there was a need for flexibility in applying cost recovery concepts. GAO, in turn, agreed that dissemination of information could be made at less than full cost if the determination is based on a Government-wide policy. However, deviations should be considered on the basis of public policy and not left to the discretion of information center management.

Federal Cost Recovery Policies: Policies stated in the Federal statutes and OMB guidance generally encourage Government agencies to recover costs of services provided to other Government and certain private users. Although a few agencies, such as NASA, have their own statutes governing charges to be made for information services, most agencies without such authority charge in accordance with two sections of U.S.C. Title 31. These sections provide the general legal authority for Government agencies to administer charges necessary to recover costs of providing certain services.

Section 483a covers charges to all non-Government entities. It states that it is the sense of the Congress that any service performed or thing of value or utility provided by a Federal agency to any person or organization, except those engaged in official Government business, should be self-sustaining to the fullest extent possible. Each agency head is authorized to prescribe charges which are fair and equitable, considering direct and indirect costs to the Government, value to the recipient, and the public policy or interest served.

The Supreme Court has interpreted this section to limit the charges that an agency can levy against a non-Governmental user to an amount not exceeding the actual value received by the user. Therefore, indirect costs that benefit the public at large, rather than the individual user, or that are incurred in establishing the whole program, rather than the specific services provided, cannot be included in the authorized fee. (See National Cable Television Association v. United States, 415 U.S.C. 336 (1974).)

Section 686(a) covers charges to other Government agencies. Departments and agencies which, in the interest of the Government, obtain services or materials from other departments should pay for them promptly on the basis of actual cost. However, if the services can be as conveniently or more cheaply performed by private agencies, they should be obtained through competitive bids. The Comptroller General has held that "actual costs," for purposes of 686(a), include "all direct costs attributable to the performance of a service or the furnishing of material" and

> ". . . only those indirect costs which are funded out of the performing agency's currently available appropriations and which bear a significant relationship to the performing of the service or work or the furnishing of materials . . . ." (57 Comp. Gen. 674, 682 (1978)).

Therefore, indirect costs are recoverable only if they can be shown, at least by implication, to have benefitted the requisitioning agency and would not have been otherwise incurred by the performing agency.

OMB Circular A-25: Entitled "User Charges" (although the Circular is still in effect, it appears to have been modified by the decision, National Cable Television, supra), this Circular recommends that a reasonable charge be made to each identifiable recipient of a Government service from which the recipient derives a special benefit. Where a service provides the recipient a special benefit above and beyond that which accrues to the public at large, a charge should be imposed to cover the full cost to the Government of rendering that service.

The Circular suggests agencies develop schedules of charges and fees for services or activities covered by the Circular and to apply accepted cost accounting principles in determining costs. In general, the Circular recommends that the cost computation should cover the direct and indirect costs to the Government of carrying out the activity. It also provides that in charging for special services the maximum fee is to be governed by the total cost of providing the service and not by the value of the service to the recipient.

Information Center Cost Recovery Practices: In the 1979 GAO report, the Comptroller General found many inconsistencies between the cost recovery statutes, the various departmental instructions regarding cost recovery, and the charging policies and practices of the information centers. Costs, with limited exceptions, were not being recovered. Information obtained by GAO from 38 information center managers showed that charging users for bibliographic services was the exception, not the general practice. They found that various types of information center users were charged inconsistently for services they received.

User	Percentage of time charged
Industry	55.6
U.S. Government (internal)	17.6
U.S. Government (external)	26.3
State/local Government	38.9
Academic institutions	47.4
General public	50.0
Foreign Government	44.4
Foreign - other	50.0
All users	41.4

A result of such inconsistent charging, GAO states, was that some groups, or some members of a single group, were treated more favorably than others.

POLICY ISSUES

In this study, we have identified more than 400 federally supported information linkage services that disseminate information to general or specific publics. Given this number, questions inevitably arise about the need for all these services. There is concern that the Government may be providing services that are or could be provided by the private sector and that there may be undesirable duplication of effort among Federal information linkage organizations. Three policy questions emerge from this discussion:

(1) What role should the Government play in providing information linkage services?

(2) To what degree do Government-supported information linkage services compete with or pre-empt those supported by the private sector?

(3) To the extent that there is a role for Government-supported linkage services, is the present configuration, with a large number of highly specific information linkage organizations and systems, the best one for providing these services?

Government Involvement in Providing Information Services

The Federal Government has been involved in the transfer of information virtually since its inception. Early activities included the constitutionally-mandated decennial census and the 1790 Patent Act, which established a Government committee of experts to examine and approve patent applications. To support this work, the Patent Office developed a collection of literature on inventions and equipment that permitted it to determine whether patent applications were for truly novel items. The Library of Congress, established in 1800, and the National Library of Medicine, founded in 1836, are other early Federal information initiatives. The Office of the Superintendent of Documents, with responsibility for the sale and distribution of Government publications, was established by the Government Printing Act in 1895. These activities and later Government involvement in information services reflect the view that it is a legitimate Government function to provide its citizens with access to information.

Questions posed in the literature about the appropriate role of Government involve all phases of information generation and dissemination:

- Is it a Government responsibility to publish the results of Government-sponsored research?
- Should there be a single source for processing and distributing the results of Government-funded research?
- Is it a Government responsibilty to facilitate access to its publications through the development of information and retrieval services or other dissemination mechanisms?
- Is there a need for a consistent national policy with respect to information dissemination or should the policy vary by type of information and/or type of user?

Public Sector v. Private Sector Responsibilities: Advocates of the free market and private enterprise tend to favor limited Government activity and greater reliance on private service providers. They contend that if there is sufficient interest in a particular topic, private entrepreneurs will enter the field and offer services to meet those needs. Advocates of greater Government participation in information services suggest that private enterprise cannot be relied upon to provide all of the services needed by the public because the private sector will enter the market only when the demand appears sufficient to produce a profit. They maintain that the idea of providing information publications and services on highly technical topics and topics pertaining to health and welfare is not likely to attract private enterprise even though it may represent an important Government priority. Free-market advocates counter that if the demand is so small, the activity may not be a justifiable Government venture, either.

The differences in point of view are largely philosophical, and there are no "right" or "wrong" answers. Berninger and Adkinson, in a study of the interaction between the public and private sectors in the delivery of information services, suggest that there are no uniquely public or uniquely private information activities. They indicate that both sectors perform similar functions, including development of primary and secondary journals and newsletters, data base development, indexing and abstracting services, selective dissemination of information, information search services, and user education programs. Both sectors also use similar technologies, cover similar topics, and attempt to serve similar populations (Berninger and Adkinson, 1978:14-15).

Another justification for Government involvement in information services is the belief that there is a qualitative difference between what Government agencies and the private sector will provide. For instance, an academic association may have a narrower view of scientific validity than a Government agency and may therefore, be more restrictive in selecting items to announce or distribute. Other organizations may be interested in presenting a particular perspective (e.g., the American Cancer Society's and the tobacco industry's views on the relationship between smoking and health). It is claimed that Government information services are needed as a balanced and objective source of information.

Information Collection: A concern that OMB has raised in recent years has to do with the extent of Government involvement in information collection, as well as dissemination. Doubts are being expressed about the need for the large volume of information currently collected and made available through the Government. To reduce the volume of information being collected, Congress passed the Paperwork Reduction Act of 1980 with the goals of:

(1) minimizing the Federal paperwork burden on respondents;

(2) minimizing the costs to Government for collecting, maintaining, using, and disseminating information;

(3) maximizing the usefulness of information that is collected; and

(4) coordinating information practices and policies (P.L. 96-511; Section 3501, 1980).

The law establishes an Office of Information and Regulatory Affairs within OMB to develop and implement standards and guidelines for information collection activities and interagency sharing of information. Although the law specifically addresses only information collected for use by Government agencies, OMB is interpreting the law broadly as a mandate to examine the role of Government in disseminating information. One of the questions being raised is whether all the information that is produced is necessary. If it is needed, then questions must be asked about how to disseminate it effectively. Whether the task can be assumed by private entities and the relative effectiveness of small, decentralized, Government-supported dissemination centers targeted to specific fields of interests, or by larger, more general services, such as the Library of Medicine, or Government-wide entities, such as GPO, are key questions.

Overlap, Duplication, and Competition

To help avoid confusion about the policy issues to be examined in this section, the terms "overlap," "duplication," and "competition" will be defined and used as follows:

(1) "Overlap" will refer to the existence of multiple Government-supported sources of information on the same or highly related topics. The concept implies encroachment of one information service into the topical jurisdiction of another.

(2) "Duplication" will be used to describe performance of the same task by multiple Government-supported information services. It may occur in designing information services or data bases, indexing and abstracting provision of bibliographic access, and/or document delivery. The concern is for repetitive performance of a function rather than multiple coverage of the same subject matter.

(3) "Competition" is the term used to describe situations in which there is a potential for, or already are, both publicly and privately supported information services. There may be both overlap and duplication between the services, but the primary concern is that Government activity pre-empts or precludes successful private activity in the field. (Applied Management Sciences, Inc., and Cuadra Associates, Inc., September 1981: 4.2.)

This concern for overlap, competition, and duplication covers all facets of information service, including acquisition and storage of information, development of tools for retrieving information, publications development, and information dissemination. Consistent with the limited scope of this issue brief, however, discussion will center on information dissemination, more specifically, document delivery. ("Document delivery" is the provision to the user of a copy of an item such as a book, journal article, or report in either hardform, microform, or soft display. It may involve sale, loan, on-line access, or library access to a copy of the text.)

Competition Between Government-Supported and Private Information Services: Discussions of competition and overlap between Government-supported information services and those in the private sector often focus on the inconsistency between a Government policy of encouraging private initiative and a practice of Government pre-emption of potential private initiatives. Government policy, as expressed in OMB Circular A-76, is to rely on private sector goods and services where they are available at a reasonable cost. This policy is based on the assumption that Government should not compete with its citizens, particularly when the private sector can offer the service at an equal or lower cost than the equivalent Government activity (OMB Circular A-76, 1979:2). The Circular specifically identifies distribution, research and development support services, library operations, and cataloging as information-related activities that could be performed by private organizations.

From the perspective of private entities providing or considering initiating information services, the possible entry of a Government-subsidized service is regarded as a major disincentive to private investment. Because Government-subsidized services can be provided free of charge or at a fee below the full cost of the operation, they can be offered at prices that private services cannot match. If the services are roughly equivalent, users are likely to select the less expensive alternative, making it difficult for private services to gain or retain a market. Representatives of the private sector indicate that the existence of Government-subsidized services precludes the successful operation of private sector services. They also assert that there is a threat, even when the private service already exists, because Government agencies have initiated competing Government-supported services without first exploring the potential for existing private services to meet their needs.

Counter-arguments are made by proponents of Government-supported information services. They maintain that the Government becomes involved primarily in areas where commercial viability is questionable because of the limited market for highly specific technical information or because of the inability of users to pay the full cost of the service. They assert that private enterprise would not be willing to serve the target audiences served by Government-funded clearinghouses. The application of these concerns to information dissemination, specifically document delivery is presented on the following pages.

Competition in Document Delivery: The role the Government chooses to play in delivering documents reporting on Government-sponsored research, etc., determines whether there is any potential for private organizations to become involved in document delivery. The Government may act as the primary distributor, as wholesaler, or as a facilitator supporting the creation of private distribution mechanisms. When a clearinghouse serves as the primary distributor, it reproduces copies of Government-sponsored research reports and distributes them to users. As a wholesaler, the clearinghouse sells or distributes publications in bulk to intermediaries who in turn distribute them to users. As a facilitator, the clearinghouse role is one of making the document available to a vendor, such as GPO, NTIS, or a commercial publisher, for reproduction and distribution.

Advocates of greater private sector involvement assert that the private sector can efficiently provide document delivery services and that there is no need for Government-sponsored clearinghouses to perform this function. The problem, as they view it, is not so much one of duplication of effort but rather that the Government has sometimes pre-empted the market and precluded the potential for commercial ventures.

An example of Government competition involves the Congressional Information Service (CIS), a private company that has been collecting, abstracting, indexing, and microfilming Congressional documents for sale to the public for over ten years. In recent years GPO has begun microfilming the same documents for distribution to depository libraries. GPO previously printed these materials in hardform only, but moved toward microfilming as a cost-saving measure. According to the 1979 GAO report, CIS expressed concern that once GPO began microfilming Congressional documents, it would also begin selling those documents in microform to the general public. CIS considered such a development an infringement on its market and contrary to the policy expressed in OMB Circular A-76.

The ERIC Document Reproduction Service (EDRS) illustrates a possible approach to cooperation between a Government-supported clearinghouse and the private sector in document delivery. ERIC enters into a five-year agreement with a commercial organization to reproduce and distribute copies of documents collected by the 16 ERIC clearinghouses. The contract is completed every five years and is awarded to the bidder who can provide service to users at the best price. The contractor is supported by the sale of copies directly to users and retains all fees that are collected. A similar arrangement exists between the Securities and Exchange Commission and Disclosure, Inc., for the sale of mandatory filings by publicly owned companies that trade on the New York, American, or over-the-counter stock exchanges.

Although such arrangements allow the private sector to become involved in document delivery, some representatives of the private sector maintain that this structure still permits too much Government interference in the marketplace. By granting a five-year contract to one organization, the Government may adversely affect other firms that wish to enter the market. These critics prefer a "hands-off" approach in which no organization is given a competitive edge.

Another facet of the document delivery topic relates to providing the text of non-Government publications, such as journal articles or sections of commercially published books. Some publishers complain about infringement of copyright protections when portions of their journals or books are reproduced for distribution in response to user requests for information. They assert that reproduction of selected articles reduces the market for the sale of their publications. The new copyright law states that when "systematic" photocopying of copyrighted materials occurs, the authorization of the copyright owner must be obtained each time a copy is made. Although the language of the law focuses on libraries, it applies equally to other types of information services.

Overlap and Duplication Among Government-Supported Information Services: If one accepts the idea that there is an important role for Government in the dissemination of information, questions still remain about the most efficient and effective structure for performing these activities. The present information dissemination structure of the Federal Government includes many small, specialized information services targeted to the needs of specific audiences. Specialization occurs through a focus on rather narrowly defined subject areas, such as health indexes or women's educational equity, or through selection of a narrowly defined target audience, such as researchers or patient educators. Specialization has led to a situation in which there may be several services offering information on related topics (e.g., a clearinghouse on child abuse and neglect and another on domestic violence among adults) or several services offering information on the same topic to different audiences (e.g., separate cancer information services for researchers, patient educators, and the public).

As noted earlier, in addition to the small, specialized services—frequently called clearinghouses—the Government also supports several broadly focused information activities, some of which produce large and comprehensive data bases, for example the MEDLARS data base of biomedical information compiled by the National Library of Medicine (NLM) and the ERIC data base of education information, sponsored by the National Institute of Education.

The existence of both the broad data bases and the smaller, specialized data bases in Government-sponsored information linkage organizations raises questions about the potential for inefficiency through overlapping collections and duplication of effort.

Overlap and Duplication in Documents Delivery: Research has shown that much of the discussion about duplication among Government-supported information services in document delivery addresses services other than information clearinghouses. It has focused on relationships between NTIS and GPO and the adequacy of the depository libraries as a substitute for clearinghouses.

One reason that clearinghouse involvement in document delivery has not generated substantial concern may be that not all clearinghouses engage in this activity. Among the AMS-Cuadra sample of 22 human services information clearinghouses, 15 provided document delivery for publications not developed by the clearinghouse, four provided limited document delivery services for selected items not available elsewhere, and eight did not offer document delivery services. There was occasional duplication in document delivery when an item in the clearinghouse collection was also available through NTIS, GPO, or another Government agency. More commonly, however, the duplication occurred in the distribution of clearinghouse-generated publications, such as synthesis and analysis publications. This type of duplication occurred when GPO performed a print run for a clearinghouse and elected to print additional copies for sale through GPO bookstores or for distribution to the depository libraries.

The AMS-Cuadra study concluded that multiple points of access to a clearinghouse publication were not to be regarded as a serious problem. They noted that although some users had complained because the same publication was available from different sources at different prices or because they resented paying for an item that others received from another source free of charge, this situation probably could not be averted if publications are to be broadly available. They suggested that some duplication was necessary to provide public access. For example, libraries in San Francisco and New York "duplicated" each other in providing access to the same magazines, but almost no rational person would imagine removing this duplication, because it is not convenient for a New Yorker to come to San Francisco to read a magazine in its library. Similarly, access to a clearinghouse-generated document from multiple sources is more of a convenience than a duplication of effort. Also, different sources have differing levels of credibility among different audiences.

CONCLUSIONS

Although the body of this issue brief has focused on a specific policy topic, there are broader policy questions that need to be addressed and resolved by stakeholders in the Federal information dissemination environment before a new direction can be established for a specific facet of Federal information activity such as "dissemination." If policies can be established in the broad area of defining the Government's role in providing information services, then a framework will have been established within which to examine more specific concerns. This section first discusses the broader policy considerations, then provides recommendations specifically relating to the information dissemination function.

Determining the appropriate role of the Federal Government in providing information services is an important first step in defining Government information policy. Baker, et al, have noted that:

> Since its inception, the Government has been active in collecting information and making it available to the public. As needs have changed and the capacity to produce and distribute information has become more sophisticated, Government involvement has expanded without a concerted effort to define which types of activities are properly within the Governmental sphere and which can or should be performed by the private sector. The result is . . . there are no uniquely public or uniquely private markets, technologies, or functions.

Continuing,

> As the amount of Federal funding to support information services becomes more limited, it is increasingly important to determine in which areas the Government wishes to continue its involvement and to establish priorities for funding. (Applied Management Sciences, Inc. and Cuadra Associates, Inc., September 1981: p. 7.2)

Currently, the Government's information dissemination involvement may be summarily described as follows:

(1) disseminating (i.e., collecting, organizing, announcing and distributing) data, reports, etc., produced by Government agencies or with Government support;

(2) disseminating data and documents produced by commercial and non-profit organizations (e.g., journal articles, reports); and

(3) analyzing and synthesizing the literature in various fields to meet the information needs of different target audiences.

A determination must be made as to which of these functions are appropriate Government responsibilities. This is a critical prerequisite to any serious attempt at consolidating Federal information dissemination mechanisms under a single coordinator of Federal information policy.

RECOMMENDATIONS

(1) Recommendation: A survey should be conducted of the Federal Government's information dissemination activities to identify those areas that have the greatest commercial viability. Attempts must then be made to stimulate private involvement in these fields, thereby conserving Federal funds for priority areas that have limited commercial potential.

Rationale: This recommendation is offered because it is consistent with stated Government policy not to compete with private enterprise and it offers assurance that areas of priority concern to the Government will be covered.

Action: Before any Government-sponsored information service is initiated, the sponsoring agency should be required to explore the feasibility of relying on the private sector for service. Techniques that could be used to encourage private initiatives include tax incentives, matching grants, or partial subsidies to encourage the private sector to enter a particular field. These methods might permit a gradual phase-out of Government support for a specific information service. To support document delivery services, the model followed by ERIC and the Securities and Exchange Commission should be replicated. These agencies contract with private organizations to provide all document delivery services on a full-cost recovery basis. There is no public subsidy of the service.

In areas where continued Federal involvement is deemed necessary (based on the results of the aforementioned survey), there should be an analysis of the "best" structure for providing dissemination service. Basically, two structural approaches should be considered: (1) a single centralized source that disseminates information from many agencies; and (2) a single source for information organized by Federal department, by subject area (e.g., health, education), or by program area, all characteristic of clearinghouses. The current Federal capability exhibits elements of both of these approaches.

The AMS/Cuadra study referred to earlier examined structural solutions to the problems of disseminating Federal information, and concluded that there were both advantages (i.e., some economies of scale might be achieved) and disadvantages (particularly in terms of the difficulties encountered in combining existing, incompatible data bases and in targeting services to the needs of a variety of different audiences) to consolidating information dissemination services.

(2) Recommendation: With this in mind, it is clear that a definitive answer concerning the feasibility and possible advantages of consolidation cannot be provided without further study. It is therefore recommended that a comprehensive, Government-wide study be conducted to:

(1) develop consistent and complete cost-accounting systems that permit objective measurement of the cost of Federal information services, both for those operated by the Government and those operated by contractors;

(2) assess the full cost of performing similar activities, such as document delivery, through the large Government-supported information systems (e.g., NTIS and GPO) and at the clearinghouses, to determine which type of organization has lower per unit costs;

(3) determine the management and administrative costs of the current Federal system and the potential for savings through consolidation;

(4) examine the output of both types of organizations to assess differences in their ability to meet users' needs; and

(5) identify all instances of overlap, duplication, and competition, and, where advantageous, devise appropriate strategies to eliminate such conditions.

These studies would provide a basis for judging whether cost savings could be achieved by consolidation while at the same time increasing responsiveness to user needs.

Appendix I

INFORMATION DISSEMINATION PROGRAMS
OF THE
SUPERINTENDENT OF DOCUMENTS

The information dissemination programs of the Superintendent of Documents began with the Printing Act of 1895, which became Title 44 of the United States Code. This act codified all of the laws governing GPO and public printing, and placed all government printing offices, with a few exceptions, under the control of the Public Printer. The Act also contained provisions regarding printing appropriations. Perhaps the most significant provision in the Printing Act was the establishment of the Office of the Superintendent of Documents. Responsibilities assigned to the Superintendent included receiving and storing all surplus Federal documents, cataloging and indexing Government publications, selling to the public, providing publications information to libraries, and distributing Government documents to Federal Depository Libraries, and distributing publications to and for Congress and the other Federal departments, agencies, and offices.

Since 1895, the basic responsibilities of the Documents organization have remained largely unchanged. However, there have been extensive changes in operational and administrative procedures and in the volume and types of business. Toward meeting its legal responsibilities and Congressional directives, and to facilitate financial and other reporting and planning activities, Documents accounts for its resources and workload within seven operating programs, as follows: General Sales, Depository Library Distribution, By Law Distribution, Mailing for Other Agencies, Federal Register, Consumer Information (Free) Distribution, Cataloging and Indexing.

The following is a brief outline of each program.

GENERAL SALES PROGRAM

1. Legal Authority

    a. Public Printing Act of 1895.

    b. United States Code: Title 1, Section 201, Title 44, Sections 1702, 1705, 1707, 1708, 1709, 1720.

2. History and Program Objectives

    Originally, in 1895, sales copies of publications were obtained by Documents from stock returned by depository libraries or from extra departmental copies. Reprint authority was granted in 1904, but did not include congressional material, although such material was acquired from various other sources and sold to the public. In May 1922, a Joint Resolution granted reprint authority for Congressional documents. Since then the Superintendent of Documents has been able to function as the sales source for "all" government printing. (Exceptions include certain maps, scientific and technical reports, etc.) However, titles available for sale are limited to those deemed to be of significant public interest to justify printing and handling, as well as certain publications that are mandatory.

Until Fiscal Year 1978, the General Sales Program was funded by appropriations, with receipts from sales being returned to the Treasury. Beginning in FY 1978, Title 44, U.S.C., was amended to require Documents to recoup costs for operating the General Sales Program from receipts, returning any excess to the Treasury. At the end of Fiscal Year 1979, the Special Sales Program was discontinued. This program, begun in 1976, administered sales of certain designated publications that Congress had directed be sold at less than "break even" prices. An annual appropriation was provided to subsidize this program. All sales items now are managed to recover the cost of publication and sales.

The objective of the General Sales Program is to make available to the public for purchase those U.S. Government publications for which there is obvious demand or need, recovering all costs through sales revenue.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	428,059
b.	Personnel Employed (bodies)	690
	Compensable Workyears	666
c.	Costs	

(1) General and Administrative Expenses:

Personnel Compensation and Benefits	$ 14,731,907
Travel	41,947
Transportation	302,964
Rents, Communications, and Utilities	3,085,083
Printing and Reproduction	992,026
Other Services	720,527
Supplies and Materials	608,831
Depreciation	130,112
Other*	6,593,328
SUBTOTAL	$ 27,206,725

(2) Operating Expenses

Cost of Publications Sold	$ 12,141,000
Unsalable Publications Expense	2,179,000
Sales Postage	7,434,000
SUBTOTAL	21,754,000
TOTAL	$ 48,960,725

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4.	Annual Volume of Business (copies sold)	24,804,000

5. Customers/Markets (foreign and domestic)

   a. General Public
   b. Education Institutions
   c. State and Local Government Agencies
   d. Federal Departments, Agencies, Offices
   e. Bookdealers (for resale)
   f. Businesses.

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

DEPOSITORY LIBRARY DISTRIBUTION PROGRAM

1. Legal Authority

   a. Public Printing Act of 1895

   b. United States Code: Title 1, Chapter 3, Section 201, Title 44, Sections 701, 719, 738, 906, 1701, 1702, 1901-1916.

2. History and Program Objectives

Prior to 1812, distribution of public documents was effected by individual Congressional acts, applying to one time distributions of specific documents. On December 27, 1812, Congress passed a resolution providing for distribution of the 13th Congress documents, as well as for "every future Congress."

A resolution of January 28, 1857, set up the framework of the present depository library system and gave the responsibility for distribution to depository libraries to the Secretary of the Interior.

The Printing Act of 1895 assigned responsibility for depository distribution to the Superintendent of Documents at the Government Printing Office, along with all other sales and distribution functions.

The Depository Library Act of 1962 set the theoretical limit for the number of designated depositories at 1,340 but due to Congressional redistricting after each decennial census, some Congressional districts now have three depositories rather than the sanctioned two. The 1962 Act also provided for two regional depositories for each state, to be designated by the senators. These "regionals" must receive and make available a copy of each publication distributed to depository libraries by GPO. Other depositories may select the categories of publications that they wish to receive.

In August 1972, Public Law 92-368 amended Title 44, U.S.C., designating the highest State appellate court libraries as depository libraries. Public Law 95-261 amended Title 44, in April 1978, to provide for designation of libraries of accredited law schools as depository libraries.

The objective of the Depository Library Distribution Program is to provide in a timely manner copies of all qualifying Government publications to designated depository libraries, as directed by Titles 1 and 44, United States Code.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	44,643
b.	Personnel Employed (bodies)	108
	Compensable Workyears	106
c.	Costs:	

Personnel Compensation and Benefits	$ 2,587,391
Travel	70,425
Transportation	155,960
Rents, Communications, and Utilities	1,654,265
Printing and Reproduction	14,268,740
Other Services	396,206
Supplies and Materials	229,144
Depreciation	35,731
Other*	1,441,566
TOTAL	$ 20,839,428

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4. Annual Volume of Business (copies distributed) 47,582,000

5. Customers/Markets

The 1381 Depository Libraries in the United States and its territories.

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

BY LAW DISTRIBUTION PROGRAM

1. Legal Authority

   a. Public Printing Act of 1895.

   b. United States Code: Title 1, Sections 202, 210, 211, 212; Title 44, Sections 1701, 1702, 1714, 1716-1718.

2. History and Program Objectives

Prior to the Public Printing Act of 1895, the distribution of public documents was a rather haphazard operation, drawing much criticism from government officials, librarians, and the public. With the Act of 1895, the Superintendent of Documents was charged with all distribution of publications. Certain specifically named publications and categories of publications (see above cited sections of Title 44) are required to be distributed by the Superintendent of Documents, at no cost to the recipients. Work performed under this program is funded by annual appropriations from Congress, specifically designated for this purpose.

The objective of the By Law Distribution Program is to satisfy the requirements for providing to authorized recipients those Government publications prescribed by statute to be distributed without charge.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	36,894
b.	Personnel Employed (bodies)	23
	Compensable Workyears	22
c.	Costs	

Personnel Compensation and Benefits	$	462,070
Travel		683
Transportation		10,428
Rents, Communications, and Utilities		475,086
Printing and Reproduction		255
Other Services		10,761
Supplies and Materials		32,495
Depreciation		12,172
Other*		322,111
TOTAL	$	1,326,061

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4. Annual Volume of Business (copies distributed) 8,938,000

5. Customers/Markets

a. The White House
b. Members of Congress
c. Congressional Constituents
d. Consulates and Legations (U.S.)
e. Foreign Legations
f. Library of Congress
g. National Archives

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

MAILING FOR OTHER AGENCIES PROGRAM

1. Legal Authority

   a. Public Printing Act of 1895.

   b. United States Code: Title 44, Sections 1701, 1702.

2. History and Program Objectives

   Under the Public Printing Act of 1895, and as subsequently stipulated in Title 44, the Superintendent of Documents may perform publication distribution functions for other Government organizations. Documents receives and stores agency stock, processes orders from the public and components of the publishing agencies, and performs periodic mailings to predetermined lists of recipients, all on a reimbursable basis. The sponsoring agencies supply the publications and are billed regularly by Documents for warehousing and distribution charges. Franked mailing labels may be supplied by the agencies, or they may be billed for postage charges.

   The objective of the Mailing for Other Agencies Program is to satisfy the requirements of other Federal agencies for distribution of Government publications, recovering all associated costs from the agencies served.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	63,523
b.	Personnel Employed (bodies)	70
	Compensable Workyears	66
c.	Costs:	
	Personnel Compensation and Benefits	$ 1,365,595
	Travel	2,460
	Transportation	36,508
	Rents, Communications, and Utilities	619,220
	Printing and Reproduction	773
	Other Services	30,466
	Supplies and Materials	137,862
	Depreciation	56,552
	Other*	813,567
	TOTAL	$ 3,063,003

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4. Annual Volume of Business (copies distributed) 26,764,000

5. Customers/Markets

   a. Federal Government Agencies
   b. General Public (through the publishing agencies)

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

FEDERAL REGISTER PROGRAM

1. Legal Authority

   a. Public Printing Act of 1895.

   b. United States Code: Title 44, Sections 1504, 1509, 1702.

2. History and Program Objectives

   With the discontinuation of the Special Sales Program at the end of Fiscal Year 1979, Documents established a separate accounting program for charges incurred in distributing the Federal Register. The Register is one remaining publication that is not priced at a total "cost recovery" level. By authority of Title 44, the price is set by the Administrative Committee of the Federal Register. The Superintendent of Documents deposits all receipts from sales of the Register to the credit of the GPO. Documents' costs for sales and other distributions of the Federal Register are charged to GPO as a separate "reimbursable distribution" program, although the majority of the distribution is a "by law" obligation for GPO.

   The objective of the Federal Register Program is to meet all requirements for statutory distribution and sales of the Federal Register in the most timely and cost effective manner possible within statutory and management constraints.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)		1,004
b.	Personnel Employed (bodies)		7
	Compensable Workyears		7
c.	Costs:		
	Personnel Compensation and Benefits	$	143,484
	Travel		141
	Transportation		0
	Rents, Communications, and Utilities		11,994
	Printing and Reproduction		78
	Other Services		7,509
	Supplies and Materials		2,838
	Depreciation		1,177
	Other*		129,167
	TOTAL	$	296,388

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4. Annual Volume of Business (copies distributed) 10,714,000

5. Customers/Markets

    a. Members of Congress
    b. Federal Agencies
    c. General Public

Please note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

CONSUMER INFORMATION (FREE) DISTRIBUTION PROGRAM

1. Legal Authority

    a. Public Printing Act of 1895.

    b. United States Code: Title 44, Sections 1701, 1702.

2. History and Program Objectives

    In October 1971, Documents opened their Pueblo, Colorado, distribution center to process promotional materials and Selected List sales orders for the western part of the country. In 1973, the Pueblo facility took over the processing of Consumer Product Information Orders for the General Services Administration, on a reimbursable basis. In April 1979, Documents terminated Selected List mailings. Since then, paid and free Consumer Information Orders and mailing of Consumer Information Center Catalogs have constituted the primary workload at Pueblo. Processing of the paid orders is accounted for under the General Sales Program. Charges for processing free Consumer Information Orders are accounted for under a separate reimbursable program, billed to the General Services Administration.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	74,994
b.	Personnel Employed (bodies)	56
	Compensable Workyears	56
c.	Costs:	

Personnel Compensation and Benefits	$ 1,206,545
Travel	4,759
Transportation	35,400
Rents, Communications, and Utilities	1,005,279
Printing and Reproduction	92,232
Other Services	55,426
Supplies and Materials	14,250
Depreciation	12,781
Other*	513,526
TOTAL	$ 2,940,198

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

6. Annual Volume of Business (copies distributed) 23,201,000

5. Customers/Markets

   a. General Services Administration
   b. General Public

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

CATALOGING AND INDEXING PROGRAM

1. Legal Authority

   a. Public Printing Act of 1895.

   b. United States Code: Title 44, Sections 719, 1710, 1711, 1901, 1904.

2. History and Program Objectives

Among the responsibilities assigned to the Superintendent of Documents by the Public Printing Act of 1895 were the compilation of indexes of Congressional documents and a monthly catalog of all Government publications printed. These functions currently are covered by Title 44, Sections 1710, and 1711, U.S.C.

Just before the turn of the twentieth century, Adelaide R. Hasse, a Los Angeles librarian, developed the cataloging system that was adopted as the Superintendent of Documents Classification System. With a few basic alterations, this system has remained in use up to the present time.

The Monthly Catalog and indexes were composed manually until January 1974, when computer composition was implemented. Cataloging data was then entered through ATS terminal keyboards. In July 1975, Documents joined the Federal Library Committee and, through their FEDLINK Network, began entering data into the OCLC computer system in Columbus, Ohio. Documents librarians have been able to create catalog records in an on-line interactive mode since that time. Also, other OCLC subscribers can have immediate access to the GPO catalog records through their local terminals.

For the last few years Documents has been exploring the feasibility of developing an in-house automated cataloging system. The concept calls for greater control over the data, increased speed and efficiency in cataloging, creation of a Federal documents data base, and eventual sharing of the systems for research and cooperative cataloging.

The objective of the Cataloging and Indexing Program is to satisfy requirements for Federal documents bibliographic information in the most timely and accurate manner consistent with legal and management constraints. The cataloging and indexing products of the Superintendent of Documents include the following:

a. The Monthly Catalog of U.S. Government Publications; including indexes; plus cumulative semi-annual, annual, and quinquennial indexes.

b. List of Classes of U.S. Government Publications.

c. Cumulative Finding Aid, House and Senate Bills (Microfiche Format); weekly, with final cumulation at end of each session of Congress.

3. Annual Cost and Resource Utilization

a.	Space/Facilities Used (sq. ft.)	12,981
b.	Personnel Employed (bodies)	50
	Compensable Workyears	49
c.	Costs:	

Personnel Compensation and Benefits	$ 1,279,997
Travel	13,391
Transportation	40
Rents, Communications, and Utilities	372,073
Printing and Reproduction	238,796
Other Services	421,011
Supplies and Materials	26,081
Depreciation	4,075
Other*	1,005,138
TOTAL	$ 3,360,602

* Includes Administrative Support Services, Transfers, Other Cost Allocations, and Engineering Service Charges.

4. Annual Volume of Business (pubs cataloged & indexed) 49,000

5. Customers/Market

a. General Public
b. Depository and Other Libraries
c. Congress
d. Federal Agencies
e. Educational Institutions
f. State and Local Agencies
g. Bookdealers and Businesses

Please Note: These figures are estimates of Fiscal Year 1984 costs, facilities, and workload, and are intended for internal use only.

REFERENCES

Applied Management Sciences, Inc., and Cuadra Associates, Inc.
Catalog of Human Services Information Resource Organizations: An Exploratory Study of Human Services Information Clearinghouses. Applied Management Sciences; Silver Spring, MD: 1981.

Applied Management Sciences, Inc., and Cuadra Associates, Inc.
Descriptive Analysis of Human Services Information Clearinghouses. Applied Management Sciences; Silver Spring, MD: 1981.

Applied Management Sciences, Inc., and Cuadra Associates, Inc.
Human Services Information Clearinghouses: A Discussion of Policy Issues. Applied Management Sciences; Silver Spring, MD: 1981.

Berninger, Douglas and Burton Adkinson.
"Interaction Between the Public and Private Sectors in National Information Programs," Annual Review of Information Science and Technology. Martha Williams (ed.), Vol. 13; 1978.

Butler, Matilda and William Paisley.
Communication for Change in Education, Interim Report. Far West Laboratory for Educational Research; San Francisco, CA: 1974.

Cuadra Associates, Inc.
A Directory of On-Line Data Bases. Cuadra Associates, Inc.; Santa Monica, CA: 1982.

Joint Committee on Printing, U.S. Congress.
Federal Printing Program. Washington, D.C.: 1967.

National Referral Center, Library of Congress.
Directory of Federally Supported Information Analysis Centers. Washington, D.C.: 1979.

U. S. General Accounting Office.
Better Information Management Policies Needed: A Study of Scientific and Technical Bibliographic Services. Washington, D.C.: 1983.

U.S. General Accounting Office
Federal Information Sources and Systems. Washington, D.C.: 1980 and 1983 (unpublished)

U.S. General Accounting Office
Proposed National Technical Information Service Revolving Fund. Washington, D.C.: 1983.

U.S. Office of Management and Budget.
Budget of the United States Government Fiscal Year 1984. Washington, D.C.: 1983.

U.S. Office of Management and Budget.
"Circular A-25: User Charges." Washington, D.C.: 1959.

U.S. Office of Management and Budget.
Development of an OMB Policy Circular on Federal Information Management; Solicitation of Public Comment." Washington, D.C.: 1983.

U.S. Office of Management and Budget.
"Draft Circular: Dissemination of Technical Information." Washington, D.C. 1978.

U.S. Office of Management and Budget.
"Draft Circular: Improved Management and Dissemination of Federal Information." Washington, D. C.: 1980.

APPENDIX II

West Virginia University

Evansdale Library
304 293-5039
304 293-4695/6
P.O. Box 6105
Morgantown, WV 26506-6105

July 19, 1987

The Honorable Doug Walgren, Chairman
Subcommittee on Science, Research
and Technology
U.S. House of Representatives
Rayburn Building
Washington, D.C. 20515

Dear Mr. Walgren:

Thank you for inviting me to testify before the Subcommittee on H.R. 1615, H.R. 2159 and other questions of Federal Information Resources Policy. I genuinely appreciate both the opportunity to testify on behalf of the American Library Association and your generosity in extending my time for oral testimony.

You have done a great service to researchers in both the public and private sectors and to American industry through your efforts to keep reports of Federally-sponsored research accessible and affordable. Older research is being re-utilized through such innovative efforts as the propfan jet engine. I also suspect that the Navy is currently finding such research useful as it explores the use of blimps as extended-duty AWACS surveillance stations.

We need to make maximum use of our resources, including research done at Federal expense, to remain competitive in the years ahead. The Administration's unfortunate effort to "privatize" the NTIS and other Federal information services would, regrettably, squander this resource by jeopardizing its long-term preservation, its intellectual accessibility through sound indexing, and its affordability for innovative researchers in small firms and academia.

The public and private sectors both have legitimate roles in providing access to Federally-sponsored research. Neither should attempt to duplicate successful, affordable services being offered by the other. The American Chemical Society is an excellent example of a user-oriented information service with a long track record of delivering information to libraries and end-users at reasonable prices. It would be foolish and wasteful for the Federal Government to duplicate services already offered by the ACS. On the other hand, the U.S. Government should not be discouraged from continuing a successful service, such as the NTIS, by self-serving complaints of "unfair competition" from would-be vendors among the more profit-oriented information services.

In the long run, I would hope that the public and private sectors could work together to identify national information needs, then develop flexible information services to meet those needs. Your initiatives and the Subcommittee's hearings have moved us toward such an agenda. Again, my very sincere thanks for your perseverance in this area, your sensitivity to the important role of depository and other libraries in providing access to technical information, and your kindness to me as a witness. Please let me know if there is anything further I can do to assist you or the Subcommittee on these questions. The work you have already done is tremendously important to our competitive future, and I shall follow the Subcommittee's activities with great interest.

Sincerely yours,

Harold B. Shill

Harold B. Shill
Evansdale Librarian/Assoc. Prof.

National Federation of Federal Employees
James M. Peirce • President
Abraham Orlofsky • Secretary Treasurer

In reply refer to: HR-BM-701541

June 26, 1987

The Honorable Doug Walgren
Chairman, Subcommittee on Science, Research
and Technology
House Committee on Science, Space, and Technology
2319 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Walgren:

On behalf of the National Federation of Federal Employees, which represents the employees at the National Technical Information Service, I would like to offer the following comments and suggestions regarding H.R. 2159, which would make NTIS a government corporation:

H.R. 2159 specifically provides for workers' compensation coverage by referring to Section 81 of Title 5, U.S. Code. In addition, the bill maintains Civil Service Retirement System and Federal Employees Retirement System coverage for employees of the corporation.

However, the bill is silent with regard to the following critical benefits of Federal employment:

1. Chapter 86, Title 5, U.S. Code, which provides Federal Employees Group Life Insurance to employees;
2. Chapter 89, Title 5, U.S. Code, which provides health insurance to employees under the Federal Employees Health Benefits Program;
3. Chapter 75, Title 5, U.S. Code, which provides employees appeal rights to the Merit Systems Protection Board in cases of adverse action;

1016 16th Street, NW; Washington, DC 20036; Phone: (202) 862-4400

NFFE National Vice Presidents:
Region 1, Georgiana Kachura, Huntington, NY
Region 2, Robert E. Estep, Jr., Chambersburg, PA
Region 3, A. B. Reynolds, Panama City, FL
Region 4, Richard E. Reiman, Terlton, OK
Region 5, William P. Davis, Parker, AZ
Region 6, Gene Needham, Port Hueneme, CA
Region 7, Charles Shelton, Sitka, AK
Region 8, Jan Lambert, Kansas City, MO
Region 9, Sheila Velazco, Muncie, IN

4. Chapter 43, Title 5, U.S. Code, which provides for a performance appraisal system for employees, and appeal rights of actions based on unacceptable performance;

5. Chapter 71, Title 5, U.S. Code, which provides for collective bargaining in the Federal sector.

Because the intent of H.R. 2159 is to change the status of NTIS from a Federal Government agency to a U.S. Corporation with no adverse effect on the employees, NFFE urges the Committee to reference specifically the above provisions when considering amendments to the bill. In order to accomplish these objectives, it would only be necessary to establish the corporation as an "agency" for purposes of Chapter 43 and 71, and the employees of the corporation as "employees" for purposes of Chapters 75, 87, and 89.

NFFE certainly appreciates the efforts of the committee to prohibit the Administration's efforts to privatize NTIS, and we look forward to working with you to make these technical corrections to H.R. 2159. If you have any questions, please contact Beth Moten of NFFE's legislative staff at (202) 862-4437.

Sincerely,

James M. Peirce
President

COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

1987

EXECUTIVE BOARD

Chairman
L. Manning Muntzing
Chairman-Elect
Stephen S. Willoughby
Secretary
Ellis K. Fields
Treasurer
Lynn A. Steen
Past Treasurer
James D. D'Ianni
Members-at-Large
Rita R. Colwell
Robert Beck Clark
Warren D. Niederhauser
William F. Prokasy
Executive Officer
Eric Leber

Members

Robert L. Habig
American Association for Clinical Chemistry
Paul L. Carson
American Association of Physicists in Medicine
Donald F. Holcomb
American Association of Physics Teachers
Mary L. Good
American Chemical Society
Charles E. Bugg
American Crystallographic Association
Herman J. Eichel
American Institute of Chemists, Inc.
G. D. Mostow
American Mathematical Society
Bertram Wolfe
American Nuclear Society
Boyd Poulsen
American Pharmaceutical Association
Academy of Pharmaceutical Sciences
Bonnie Strickland
American Psychological Association
Frank R. Ruddle
American Society for Cell Biology
Jean E. Brenchley
American Society for Microbiology
Mary Ellen Jones
American Society of Biological Chemists, Inc.
Eric E. Conn
American Society of Plant Physiologists
Paul Abrahams
Association for Computing Machinery, Inc.
F. Joe Crosswhite
Conference Board of the Mathematical Sciences
Barry R. Bloom
Federation of American Societies for Experimental Biology
Paul G. Gassman
Council for Chemical Research, Inc.
William Prokasy
Federation of Behavioral, Psychological and Cognitive Sciences
John W. Poston
Health Physics Society
Robert E. D. Woolsey
The Institute of Management Sciences
Lynn A. Steen
Mathematical Association of America
Donald S. Emmeluth
National Association of Biology Teachers
John A. Dossey
National Council of Teachers of Mathematics
LeRoy Lee
National Science Teachers Association
Stephen M. Pollock
The Operations Research Society of America
Robert G. Greenler
Optical Society of America
Charles William Gear
The Society for Industrial and Applied Mathematics
Gerhard Giebisch
Society for General Physiologists
Robert F. Landel
The Society of Rheology

Position Statement
Council of Scientific Society Presidents

Proposed Legislation on
Government Information Agency

The Council of Scientific Society Presidents (CSSP) endorses the following general principles with respect to Bills H.R.1615 and H.R.1616 on the subject of Access to Federal Government Information, introduced by Representative George E. Brown, Jr.

1. Information collected by the Federal Government is an invaluable resource for the economy and for society. Legislation that promotes full utilization of this resource deserves the support of the scientific community.

2. Access to unclassified, non-proprietary or non-private information collected by the Federal Government must be uninhibited. Open access to this information is a citizen's right in a free society and is essential to the achievement of national goals.

3. The Federal Government has a responsibility to insure that the information it collects is disseminated effectively.

In light of these general principles, CSSP further asserts that any legislation in this area should embody certain policies:

1. Access to Federal Government information should be simple and economical. The information itself should be accurate and timely.

2. Collection of information by the Federal Government must be adequately funded, particularly when the Federal Government is the only body able to obtain the information.

3. The Federal Government should develop indexes and abstracts of its source materials so that information seekers can easily and effectively retrieve what they need.

1155 16th St., N.W., Washington, D.C. 20036 (202) 872-4452

The views expressed by CSSP are those of its members and do not necessarily represent the official position of their respective organizations.

4. Federal Government information must be archived, even if the archiving activity cannot be made self-supporting, since future needs for the information cannot be anticipated.

5. Federal Government information must be marketed to those who can benefit from it in order to maximize its value to the nation.

CSSP endorses the objectives of H.R.1616, and of H.R.1615 (insofar as it pertains to the sale of government information), but expresses its concerns these bills:

1. Passage of the legislation must not be allowed to reduce funding of information collection activities, especially government statistics, which are already woefully underfunded.

2. The proposed new central agency will be an intermediary between the users of information and the agencies that collect it. The legislation should require the information agency to provide assistance in interpreting data formats. This assistance is now provided by the collecting agencies.

3. Funding of the agency as proposed in the legislation does not appear adequate to accomplish the objectives central to its purposes:

   (a) centralized and improved indexing services;

   (b) research into better abstracting schemes and implementation of these improved schemes;

   (c) developing standards for information interchange or, at a minimum, of standards for specifying document and data formats.

4. The private sector now offers "valued added" services connected with Federal Government data bases. The legislation should encourage these complementary private sector activities and not impede them.

5. The name "Government Information Agency" has negative connotations such as invasion of privacy. A more appropriate name, without these connotations, should be selected.

APPENDIX III

100TH CONGRESS
1ST SESSION

H. R. 2159

To amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce.

IN THE HOUSE OF REPRESENTATIVES

APRIL 23, 1987

Mr. WALGREN introduced the following bill; which was referred to the Committee on Science, Space, and Technology

---

A BILL

To amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Technical Information Act of 1987".

SEC. 2. ESTABLISHMENT OF CORPORATION.

(a) IN GENERAL.—The Stevenson-Wydler Technology Innovation Act of 1980 is amended by redesignating sections

17 and 18 as sections 18 and 19, respectively, and by inserting after section 16 the following new section:

"SEC. 17. NATIONAL TECHNICAL INFORMATION CORPORATION.

"(a) ESTABLISHMENT OF CORPORATION.—There is hereby established a body corporate under the direction and supervision of the Secretary to be known as the National Technical Information Corporation (hereinafter referred to as the 'Corporation'). The Corporation shall be a wholly owned Government corporation subject to the Government Corporation Control Act (31 U.S.C. 9101 et seq.), except as otherwise provided in this section.

"(b) SUCCESSION.—The Corporation shall have perpetual succession unless dissolved by an Act of Congress.

"(c) PRINCIPAL OFFICE.—The Corporation shall have its principal office either in the District of Columbia or in Virginia and shall be deemed, for purposes of venue in civil actions, to be a resident of the District of Columbia. The Corporation may establish offices in such other place or places as it may deem necessary or appropriate in the conduct of its business.

"(d) GENERAL POWERS.—The Corporation shall have the following powers:

"(1) to adopt, alter, and use a corporate seal;

"(2) to adopt, amend, and repeal bylaws, rules, and regulations governing the conduct of its business and the performance of powers and duties granted to or imposed upon it by law;

"(3) to sue and be sued in its corporate name (and liability for judgments against the Corporation shall be limited solely to the assets of the Corporation);

"(4) to have the priority of the United States with respect to the payment of debts out of bankrupt, insolvent, or decedent's estates;

"(5) to appoint and fix the compensation, in accordance with the provisions of chapter 51 and subchapter 53 of title 5 of the United States Code, of such officers, attorneys, agents, and employees as may be necessary for the conduct of its business, define their authority and duties, and delegate to them such of the powers vested in the Corporation as the Administrator may decide without regard to any administratively imposed limits on the number or grade of personnel;

"(6) to acquire by purchase, lease, condemnation, or donation such real or personal property or any interest therein, and sell, lease, or otherwise dispose of such real and personal property, as the Corporation considers necessary for the efficient conduct of its business without regard to the provisions of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471–493); except that purchases and contracts for the construction, maintenance, or operation of facilities in excess of $50,000, other than for personal services, made by the Corporation, shall be made after advertising, in such manner and at such times sufficiently in advance of opening bids as will assure opportunity for competition;

"(7) to accept gifts or donations of services, or of property, real, personal, or mixed, tangible or intangible, in aid of any of the purposes herein authorized;

"(8) to enter into and perform such contracts, leases, cooperative agreements, and other transactions as may be necessary in the conduct of its business and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, territory, or possession, or with any political subdivision thereof, or with any person, firm, association, or corporation; except that no contract for the purpose of obtaining funds or other financial instruments or assistance shall be entered into by or on behalf of the Corporation unless expressly authorized in this Act;

"(9) to retain and utilize its revenues and receipts for any of the purposes of the Corporation (notwithstanding the limitations of section 13(a)(4));

"(10) to levy reasonable fees for its products and services so as to enable the Corporation to operate on a self-sustaining nonprofit basis without cost to the Treasury (but such fees may be waived for products or services furnished to any agency or instrumentality of the United States, or for publications which are distributed pursuant to reciprocal arrangements for the exchange of information, or which are otherwise issued primarily for the general benefit of the public);

"(11) to borrow money only from the Federal Financing Bank, in accordance with the provisions of the Federal Financing Bank Act of 1973 (12 U.S.C. 2281 et seq.), and to issue such obligations as it determines to be necessary to carry out the purposes of this section (but the amount of such obligations outstanding at any one time shall not exceed $10,000,000 for purposes related to the business of the Corporation and $10,000,000 for modernization of equipment);

"(12) to determine the character of and the necessity for its obligations and expenditures and the manner in which they shall be incurred, allowed, and paid, subject to the provisions of this Act and other provisions of law specifically applicable to Government corporations;

"(13) to execute, in accordance with its bylaws, rules, and regulations, all instruments necessary and appropriate in the exercise of any of its powers;

"(14) to settle and adjust claims held by the Corporation against other persons or parties and claims by other persons or parties against the Corporation, other than claims cognizable under the tort claims procedures in chapter 171 of title 28, United States Code (with respect to which the Corporation will be represented by the Attorney General); and

"(15) to take such actions as may be necessary or appropriate to carry out the powers herein or hereafter specifically conferred upon the Corporation.

"(e) MANAGEMENT.—(1)(A) The management of the Corporation shall be vested in an Administrator who shall be appointed by the President, by and with the advice and consent of the Senate, for a term of six years. Any Administrator appointed to fill a vacancy in that position prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term. The Administrator shall be compensated at the rate provided in level IV of the Executive Schedule (5 U.S.C. 5316).

"(B) The Administrator shall report to the Secretary in the most direct manner consistent with his position in the Department.

"(2) The Administrator shall designate an officer of the Corporation to act as Administrator in the event of the Administrator's absence or incapacity.

"(3) In the event that the effective date of the establishment of the Corporation occurs before the Administrator takes office, the Director of the National Technical Information Service shall serve as Acting Administrator until the Administrator takes office.

"(f) LEGAL ACTIONS INVOLVING THE CORPORATION.—(1)(A) If the Corporation engages in or adheres to any action, practice, or policy inconsistent with the provisions of this Act, or if the Corporation or any other person violates any provision of this Act or obstructs or interferes with any activity authorized by this Act, or refuses, fails, or neglects to discharge its duties under this Act, or threatens any such violation, obstruction, interference, refusal, failure, or neglect, the District Court of the United States for any district in which the Corporation or such other person resides or may be found shall have jurisdiction, except as otherwise provided by law, upon petition of the Attorney General, or upon petition by the Comptroller General of the United

States, to grant such relief as may be necessary or appropriate to prevent or terminate such conduct or threat.

"(B) Nothing contained in this section shall be construed as relieving any person of any punishment, liability, or sanction which may be imposed otherwise than under this Act.

"(C) Nothing in this section shall be deemed or construed to prevent the enforcement of the other provisions of this Act by appropriate officers of the United States.

"(2) District courts of the United States constituted under chapter 5 of title 28, United States Code, and courts constituted under section 22 of the Organic Act of Guam (48 U.S.C. 1424), section 21 of the Revised Organic Act of the Virgin Islands (48 U.S.C. 1611), section 1 of title 3 of the Canal Zone Code, and the first section of the Act entitled "An Act to create the District Court for the Northern Mariana Islands, implementing article IV of the Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America", approved November 8, 1977 (91 Stat. 1265), shall have original jurisdiction of all civil actions against the Corporation; except that (A) the tort claims procedures in chapter 171 of title 28, United States Code, shall apply to the Corporation as if it were a Federal agency and any judgment or compromised claim resulting from any action thereunder shall be paid by the Corporation from its funds, and (B) the Corporation shall be liable for contract claims only if such claims are based upon a written contract to which the Corporation is an executing party.

"(g) ADVISORY BOARD.—(1) There is established the Advisory Board of the National Technical Information Corporation which shall be composed of a chairman and four members appointed by the Secretary. The members shall be appointed for terms of five years each; except that, of the members first appointed under this subsection, one shall be appointed for a term of one year, one for a term of two years, one for a term of three years, and one for a term of four years, as designated by the Secretary at the time of such appointment. Any person appointed to fill a vacancy occurring before the expiration of the term for which his or her predecessor was appointed shall be appointed for the remainder of such term. Each member of the Advisory Board shall be a citizen of the United States. Upon the expiration of his or her term of office a member shall continue to serve until the member's successor is appointed.

"(2) In appointing members of the Advisory Board the Secretary shall solicit recommendations from the major users and beneficiaries of the Corporation's services and select individuals experienced in providing or utilizing technical information.

"(3) The Advisory Board shall review the general policies and operations of the Corporation, including policies in connection with fees and charges for its services, and advise the Secretary and the Administrator with respect thereto.

"(4) The Advisory Board shall meet at the call of the Secretary, but not less often than once each six months.

"(5) All official meetings of the Advisory Board shall be preceded by reasonable public notice and shall be open to public observation; except that the chairman may close a meeting to the public if it is probable that the meeting will include a discussion of—

"(A) information likely to impede full, free, and fair competition for contracts relating to goods or services purchased by or provided by the Corporation, or

"(B) information or matters exempted from public disclosure pursuant to paragraph (1), (2), (4), (5), or (6) of section 552b(c) of title 5, United States Code.

"(6) Each member of the Advisory Board shall receive per diem compensation from funds available to the Corporation, at a rate not in excess of the per diem equivalent to the maximum scheduled rate of the General Schedule, when actually engaged in the performance of duties vested in the Advisory Board. Each member of the Advisory Board shall be reimbursed, in accordance with section 5703 of title 5, United States Code (but from funds available to the Corporation), for per diem, travel, subsistence, and other necessary expenses incurred by the member in the performance of such duties.

"(h) ANNUAL AUDIT.—The Corporation's financial statements shall be audited annually in accordance with section 9105 of title 31, United States Code.

"(i) ANNUAL REPORT.—Not later than 90 days following the close of each fiscal year, the Secretary shall transmit to the Congress a detailed report of the Corporation's operations during the previous year which shall include a summary of the Corporation's operating and financial performance, the report and recommendations of the auditor under subsection (h), and a summary of the Corporation's planned capital improvements.

"(j) CONTRIBUTIONS TO RETIREMENT AND DISABILITY AND EMPLOYEES' COMPENSATION FUNDS.—The Corporation shall contribute to the civil service retirement and disability fund, on the basis of annual billings as determined by the Office of Personnel Management, for the Government's share of the cost of the civil service retirement system applicable to the Corporation's employees and their beneficiaries. The Corporation shall also contribute to the employees' compensation fund, on the basis of annual billings as determined by the Secretary of Labor, for the benefit payments made from such fund on account of the Corporation's employees. The annual billings shall also include a statement of the fair portion of the cost of administration of the respective funds, which shall be paid by the Corporation into the Treasury as miscellaneous receipts.

"(k) FUNCTIONS OF THE NATIONAL TECHNICAL INFORMATION CORPORATION.—The Corporation is authorized and directed—

"(1) to establish and maintain a permanent repository and central clearinghouse for the collection and dissemination of nonclassified scientific, technical, and engineering information;

"(2) to search for, collect, categorize, coordinate, integrate, record, index, and catalog such information from whatever sources, foreign and domestic, that may be available, and to cooperate and coordinate its operations with other government information programs;

"(3) to make such information available in a timely manner to industry and business, to State and local governments, to other agencies of the Federal Government, and to the general public, through the preparation of abstracts, digests, translations, bibliographies, indexes, and microfilm and other reproduction for distribution either directly or by utilization of business, trade, technical, and scientific publications and services;

"(4) to make its bibliographic information products (including but not limited to catalogs, indexes, abstracts, and newsletters) available in a timely manner to depository libraries as a part of the Depository Library Program of the Government Printing Office, to the extent that such information was being made available for this purpose on the date of the enactment of this section.

"(5) to effect, within the limits of its authority as now or hereafter defined by law, and with the consent of competent authority, the removal of restrictions on the dissemination of scientific and technical data where consideration of national security permit the release of such data for the benefit of industry and business;

"(6) to acquire and license Government-owned patents with significant commercial potential;

"(7) to provide accounting and production services to Federal agencies and technical assistance for the Agency for International Development's efforts to transfer United States scientific and technical information to developing countries;

"(8) to perform the functions heretofore exercised by the National Technical Information Service under section 10(d);

"(9) to perform the functions delegated by the Secretary to the National Technical Information Service pursuant to section 2(d) of the Japanese Technical Literature Act of 1986 (P.L. 99-382);

"(10) to serve as a clearinghouse, in conjunction with the private sector as appropriate, for information regarding the planned translation into English of unclassified foreign scientific and technical information;

"(11) to refer to the armed services all scientific and technical information coming to the Corporation's attention which it deems to have an immediate or potential practical military value of significance, and to refer to the heads of other Government agencies such scientific and technical information as relates to activities within the primary responsibility of such agencies;

"(12) to implement new methods or media for the dissemination of scientific and technical information;

"(13) to perform all other functions heretofore exercised by the National Technical Information Service; and

"(14) to exercise any other function necessary and proper to carry out this section, to the extent that authority to exercise such function is expressly or impliedly provided by this section.

"(l) SECURITY CLASSIFICATION.—The Corporation shall respect and preserve the security classification of any scientific or technical information, data, patents, inventions, or discoveries in, or coming into, the possession or control of the Corporation, the classified status of which the President or his designee or designees certify as being essential in the interest of national defense, and nothing in this title shall be construed as modifying or limiting any other statute relating to the classification of information for reasons of national defense or security.

"(m) INFRINGEMENT ON NAME.—(1) No person or other government entity may use the words 'National Technical Information Corporation' or a combination of these words in a manner which is likely to mislead or deceive.

"(2) A violation of this subsection may be enjoined at the suit of the Corporation.".

(b) CONFORMING AMENDMENTS.—(1) Section 9101 of title 31, United States Code (relating to the definition of "wholly owned Government Corporation"), is amended by redesignating subparagraphs (G) through (M) as subparagraphs (H) through (N), respectively, and by inserting after subparagraph (F) the following new subparagraph:

"(G) the National Technical Information Corporation.".

(2) The Act of September 9, 1950 (15 U.S.C. 1151–1157) is repealed.

SEC. 3. TRANSITIONAL PROVISIONS.

(a) **National Technical Information Service Superseded.**—The National Technical Information Corporation shall supersede and replace the National Technical Information Service heretofore operating within the Department of Commerce, and shall assume and perform all functions heretofore vested in, delegated to, or otherwise being performed by such Service. All references to the National Technical Information Service in any law, regulation, or document shall (from and after the effective date of this Act) be deemed to be references to the Corporation.

(b) **Transfer of Personnel, Records, Etc.**—All personnel employed in connection with, and the assets, liabilities, contracts, records, unexpended balance of appropriations, authorizations, allocations, and other funds which the Secretary determines to have been employed, held, used, arising from, available to, or to be made available in connection with, any functions of the National Technical Information Service which are vested in the Corporation by or pursuant to this Act shall be transferred to the Corporation.

(c) **Continuation of Pending Proceedings.**—No suit, action, or other proceeding begun by or against any officer in his or her capacity as an officer of the Department of

Commerce or the National Technical Information Service shall abate by reason of the vesting of any function in the Corporation by or pursuant to this Act. No cause of action by or against the Secretary, or by or against any officer of the Department of Commerce, shall abate by reason of the vesting of any function in the Corporation by or pursuant to this Act.

(d) All regulations issued by the National Technical Information Service, and all regulations issued by the Secretary of Commerce in connection with functions vested in the Corporation by or pursuant to this Act, shall continue in effect until modified or repealed by the Corporation.

SEC. 4. EFFECTIVE DATE.

All of the provisions of this Act (including the amendments made by section 2) shall become effective 30 days after the taking of office by the Administrator of the National Technical Information Corporation, but in no event later than October 1, 1988.

APPENDIX IV

100TH CONGRESS
1ST SESSION

H. R. 1615

To establish the Government Information Agency to enhance the economic, scientific, and technological position of the United States by acquiring, processing, and distributing the fruits of federally performed and federally sponsored research, development, and analysis, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 16, 1987

Mr. BROWN of California (for himself, Mr. OWENS of New York, Mr. SOLARZ, Mr. BONER of Tennessee, Mr. GARCIA, and Mrs. BOXER) introduced the following bill; which was referred jointly to the Committees on Government Operations, Rules, and Science, Space, and Technology

---

A BILL

To establish the Government Information Agency to enhance the economic, scientific, and technological position of the United States by acquiring, processing, and distributing the fruits of federally performed and federally sponsored research, development, and analysis, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

327

TITLE I—GOVERNMENT INFORMATION AGENCY

PART A—ESTABLISHMENT OF AGENCY

SEC. 101. DEFINITIONS.

For purposes of this title:

(1) The term "Administrator" means the Administrator of the Government Information Agency appointed under section 103.

(2) The term "Agency" means the Government Information Agency established under section 102.

(3) The term "Federal agency" has the same meaning as is given to the term "agency" in section 551(1) of title 5, United States Code; except that such term also includes the Congress and all other authorities in the legislative branch of the Government.

(4) The term "function" means any duty, obligation, power, authority, responsibility, right, privilege, activity, or program.

(5) The term "Government information" means all scientific, technical, business, and economic information and data (in any form) which is in the possession or control of any Federal agency or is obtained by any Federal agency from a State or local government, a foreign entity, or any other public or private source, and which pertains to or derives from federally per-

formed or federally sponsored research, development, or analysis or incorporates the results of such research, development, or analysis, other than information—

(A) which is classified;

(B) which is provided to the Federal agency by a contractor in connection with a contract entered into with such agency, including but not limited to information which constitutes trade secrets within the meaning of applicable Federal law; or

(C) the sale, disclosure, or distribution of which is otherwise prohibited or restricted by applicable Federal law or by regulations duly promulgated thereunder.

SEC. 102. ESTABLISHMENT.

There is hereby established, as an independent establishment of the Federal Government, the Government Information Agency.

SEC. 103. OFFICERS.

(a) Administrator.—(1) The Agency shall be administered by an Administrator, who shall be appointed by the President, by and with the advice and consent of the Senate. The Administrator shall be an individual with demonstrated ability in—

(A) computer science, information science, or library science; and

(B) printing and publishing.

(2) The Administrator shall—

(A) carry out the mission and functions of the Agency, including all functions transferred to the Administrator or the Agency by this title;

(B) have principal responsibility for activities involved in the sale of Government information to the public; and

(C) have authority and control over all personnel, programs, and activities of the Agency.

(b) DEPUTY ADMINISTRATOR.—There shall be in the Agency a Deputy Administrator, who shall possess the same credentials as those required of the Administrator under subsection (a)(1) and shall be appointed by the President, by and with the advice and consent of the Senate. The Deputy Administrator shall perform such functions as the Administrator shall prescribe. The Deputy Administrator shall act for and perform the functions of the Administrator during the absence or disability of the Administrator, or in the event of a vacancy in the office of the Administrator.

(c) ASSOCIATE ADMINISTRATORS.—Each of the major programs of the Agency shall be directed by an Associate Administrator who shall be designated by the Administrator.

SEC. 104. MISSION AND FUNCTIONS OF THE AGENCY.

(a) IN GENERAL.—It shall be the mission of the Agency to enhance the economic, scientific, and technological position of the United States by acquiring, processing, and selling primarily the fruits of federally performed and federally sponsored research, development, and analysis.

(b) SPECIFIC FUNCTIONS.—In carrying out the mission of the Agency, the Administrator shall—

(1) collect Government information (in electronic form to the maximum extent possible) in the manner provided by section 107 and through other appropriate means;

(2) establish and maintain an electronic bibliographic database of all Government information collected, along with such other records, libraries, and compilations of Government information as may be necessary or appropriate, utilizing the best available technology for this purpose; and

(3) make such information available to business and industrial concerns, academic institutions, other Federal agencies, State and local agencies, and the general public, and to foreign governments and other foreign entities to the extent not inconsistent with applicable treaties and international agreements, on reasonable terms and conditions and upon payment of rea-

sonable fees and charges determined in accordance with this title.

(c) FOREIGN INFORMATION.—To the maximum extent possible (and utilizing international agreements, direct purchases, and other means), the Agency shall also collect, maintain, and make available (in the manner described in subsection (b)) information on the results of foreign research, development, and analysis, with the particular objective of ensuring that American enterprises and other entities will have available to them the information necessary to keep abreast of foreign competition.

SEC. 105. FUNDING OF AGENCY FUNCTIONS.

(a) ESTABLISHMENT OF REVOLVING FUND.—There is hereby established in the Treasury a revolving fund to provide working capital for the Agency. Such fund shall be available to the Administrator, without fiscal year limitation, for payment of the costs incurred by the Agency in carrying out its functions under this title, including expenses incurred for necessary technological improvements and for the maintenance and operation of such common administrative services as the Administrator may find to be desirable in the interest of economy and efficiency.

(b) CAPITAL OF FUND.—The capital of the fund shall consist of—

(1) the amount initially appropriated pursuant to section 140(b);

(2) fees and service charges imposed and collected, under section 116, for information and services provided as described in section 104(b)(3);

(3) gifts and bequests received under section 119;

(4) funds accepted from other Federal agencies under section 120; and

(5) unexpended balances of appropriations transferred to the Agency under sections 131 and 132 (but such unexpended balances shall be held in special accounts within the fund and used exclusively for expenses incurred in performing the functions, transferred to the Agency under section 106, for which the appropriations were originally made).

(c) OTHER CREDITS AND REIMBURSEMENT.—The fund shall also be credited with any other appropriations made for the purpose of providing working capital to the Agency, with the fair and reasonable value of such stocks of supplies, equipment, and other assets and inventories on order as the Administrator may transfer to the fund, less the related liabilities and unpaid obligations, and with receipts from the sale or exchange of property and receipts in payment for loss or damage to property owned by the Agency. The fund shall be reimbursed in advance from available funds of offices in the Agency, or from other sources, for supplies and services at rates which will approximate the expenses of operation, including the accrual of annual leave and the depreciation of equipment.

(d) TREATMENT OF SURPLUS IN FUND.—There shall be covered into the United States Treasury as miscellaneous receipts any surplus of the fund (all assets, liabilities, and prior losses considered) above the amounts transferred or appropriated to establish and maintain the fund or otherwise received by the fund, to the extent the Administrator determines that such surplus will not be needed for the performance of the Agency's functions.

SEC. 106. TRANSFERS OF FUNCTIONS.

(a) NATIONAL TECHNICAL INFORMATION SERVICE.—The National Technical Information Service of the Department of Commerce is transferred to the Agency.

(b) FUNCTIONS OF OTHER FEDERAL AGENCIES.—There are also transferred to the Administrator all functions of any other Federal agency which relate to the sale or distribution of Government information to the public (as determined by the Director of the Office of Management and Budget) and which are being carried out (immediately prior to the effective date of this Act) by such agency or its head, either directly or through one or more subordinate offices or entities within or under the control of such agency or head.

SEC. 107. PROVISION OF INFORMATION TO THE ADMINISTRATOR BY FEDERAL AGENCIES.

(a) IN GENERAL.—Except as provided in subsection (c), each Federal agency shall provide to the Administrator a copy of all information developed or received by the Federal agency in connection with research, development, or analysis performed or sponsored by that agency, including information obtained or received pursuant to research, development, or analysis contracts. Such information shall be so provided without cost to the Administrator or the Agency, except that the Administrator may reimburse the Federal agency providing the information for the costs of materials and reproduction. If the information is received or maintained by the Federal agency in more than one form (such as paper, microfilm, or electronic information), the Federal agency shall provide to the Administrator a copy of such information in each such form.

(b) DISTRIBUTION AGREEMENTS.—Federal agencies required to provide information to the Administrator under subsection (a) may enter into agreements with the Administrator under which the Agency will act as the primary distributor of such information on their behalf.

(c) CLASSIFIED INFORMATION.—Subsection (a) does not apply to classified information.

PART B—ADMINISTRATIVE PROVISIONS

SEC. 111. RULES.

In the performance of the functions of the Administrator and the Agency, the Administrator is authorized to make, promulgate, issue, rescind, and amend rules and regulations. The promulgation of such rules and regulations—

(1) shall be governed by the provisions of chapter 5 of title 5, United States Code; and

(2) shall be after notice and opportunity for full participation by relevant Federal agencies, State agencies, local governments, regional organizations, authorities, councils, and other interested public and private parties.

SEC. 112. DELEGATION.

Except as otherwise provided in this title, the Administrator may delegate any function to such officers and employees of the Agency as the Administrator may designate, and may authorize such successive redelegations of such functions in the Agency as may be necessary or appropriate. No delegation of functions by the Administrator under this section or under any other provision of this title shall relieve the Administrator of responsibility for the administration of such functions.

SEC. 113. PERSONNEL AND SERVICES.

(a) In General.—(1) In the performance of the functions of the Administrator and in addition to the Deputy Administrator provided for by section 103(b), the Administrator is authorized to appoint, transfer, and fix the compensation of such officers and employees, including attorneys, as may be necessary to carry out the functions of the Administrator and the Agency. Except as otherwise provided by law, such officers and employees shall be appointed in accordance with the civil service laws and compensated in accordance with title 5, United States Code.

(2) The Administrator is authorized to obtain the services of experts and consultants in accordance with section 3109 of title 5, United States Code.

(3) The Administrator is authorized to utilize, on a reimbursable basis, the services of personnel of any Federal agency.

(4) The Administrator is authorized to appoint such advisory committees as may be appropriate for purposes of consultation and advice to the Agency in carrying out the functions of the Agency.

(b) VOLUNTARY SERVICES.—(1) The Administrator is authorized to accept voluntary and uncompensated services without regard to the provisions of section 1342 of title 31, United States Code, if such services will not be used to displace Federal employees employed on a full-time, part-time, or seasonal basis.

(2) An individual who provides voluntary services under paragraph (1) shall not be considered a Federal employee for any purpose other than for purposes of chapter 81 of title 5, United States Code, relating to compensation for work injuries, and chapter 171 of title 28, United States Code, relating to tort claims.

SEC. 114. CONTRACTS.

The Administrator is authorized, without regard to the provisions of section 3324 of title 31, United States Code, to enter into and perform such contracts, cooperative agreements, or other transactions as may be necessary to carry out the functions of the Administrator and the Agency. The Administrator may enter into such contracts, agreements, and transactions with any Federal agency or any instrumentality of the United States, or with any State, territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution, on such terms and conditions as the Administrator may consider appropriate. The authority of the Administrator to enter into contracts under this section shall be exercised only to such extent and in such amounts as are provided for in advance in appropriation Acts.

SEC. 115. USE OF FACILITIES.

With their consent, the Administrator may, with or without reimbursement, use the services, equipment, personnel, and facilities of Federal agencies and other public and private agencies, and may cooperate with other public and private agencies and instrumentalities in the use of services, equipment, personnel, and facilities. The head of each Federal agency shall cooperate fully with the Administrator in making the services, equipment, personnel, and facilities of the Federal agency available to the Administrator. The head of a Federal agency is authorized, notwithstanding any other provision of law, to transfer to or to receive from the Agency, without reimbursement, supplies and equipment other than administrative supplies or equipment.

SEC. 116. FEES AND CHARGES.

(a) In General.—Notwithstanding any other provision of law, the Administrator may establish and impose reasonable fees and charges with respect to the sale of Government information and with respect to the provision of services and assistance, and may change and abolish any of such fees and charges.

(b) Requirement of Deposit.—The Administrator is authorized to require a deposit before the Administrator provides any Government information or service or assistance for which a fee or charge is required under this section.

(c) Disposition of Moneys Received.—All moneys received from fees and charges imposed under this section shall be deposited in the revolving fund established under section 105.

(d) ESTABLISHMENT OF FEES AND CHARGES.—In establishing reasonable fees and charges under this section, the Administrator may take into consideration—

(1) the actual costs which will be incurred in providing Government information or services or assistance;

(2) the efficiency of the Government in providing such information, services, or assistance;

(3) the portion of the cost that will be incurred in providing such information, services, or assistance which may be attributed to benefits for the general public interest rather than to exclusive benefits for the person requesting such information, services, or assistance;

(4) any public service which occurs through the provision of such information, services, or assistance; and

(5) such other factors as the Administrator considers relevant.

(e) REFUNDS OF EXCESS PAYMENTS.—In any case in which the Administrator determines that any person has made a payment which is not required under this section or has made a payment which is in excess of the amount required under this section, the Administrator, upon application or otherwise, may cause a refund to be made from applicable funds.

SEC. 117. ACQUISITION AND MAINTENANCE OF PROPERTY.

(a) IN GENERAL.—The Administrator is authorized—

(1) to acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain such real and personal property (including patents), or any interest therein, within and outside the continental United States, as the Administrator considers necessary; and

(2) to lease to others such real and personal property.

Title to any property or interest therein acquired pursuant to this section shall be in the United States.

(b) LIMITATIONS.—(1) The authority granted by subsection (a) of this section shall be available only with respect to facilities of a special purpose nature that cannot readily be reassigned from similar Federal activities and are not otherwise available for assignment to the Agency by the Administrator of General Services.

(2) The authority of the Administrator to enter into contracts and leases under this section shall be exercised only to such extent and in such amounts as are provided for in advance in appropriation Acts.

SEC. 118. COPYRIGHTS AND PATENTS.

The Administrator is authorized to acquire any of the following described rights if the property acquired thereby is for use in, or is useful to, the performance of functions of the Administrator or the Agency:

(1) Copyrights, patents, and applications for patents, designs, processes, specifications, and data.

(2) Licenses under copyrights, patents, and applications for patents.

(3) Releases, before an action is brought, for past infringement of patents of copyrights.

SEC. 119. GIFTS AND BEQUESTS.

The Administrator is authorized to accept, hold, administer, and utilize gifts, donations, or bequests of property, real or personal, tangible or intangible, and contributions of money for purposes of aiding or facilitating the work of the Administrator or the Agency. For purposes of Federal income, estate, and gift taxes, and State taxes, property accepted under this subsection shall be considered a gift or bequest to the United States.

SEC. 120. TRANSFERS OF FUNDS FROM OTHER FEDERAL AGENCIES.

The Administrator is authorized to accept transfers from other Federal agencies of funds which are available to carry out functions transferred by this title to the Administrator or functions assigned by law to the Administrator after the date of the enactment of this Act.

SEC. 121. SEAL OF AGENCY.

The Administrator shall cause a seal of office to be made for the Agency of such design as the Administrator shall approve. Judicial notice shall be taken of such seal.

SEC. 122. ANNUAL REPORT.

As soon as is practicable after the close of each fiscal year, the Administrator shall submit to the President a report on the activities of the Agency during that year. The President shall transmit each such report to the Speaker of the House of Representatives and the President pro tempore of the Senate not later than December 31 of each year.

SEC. 123. SALARY OF ADMINISTRATOR AND DEPUTY ADMINISTRATOR.

(a) ADMINISTRATOR.—Section 5315 of title 5, United States Code, is amended by adding at the end thereof the following:

"Administrator, Government Information Agency.".

(b) DEPUTY ADMINISTRATOR.—Section 5316 of title 5, United States Code, is amended by adding at the end thereof the following:

"Deputy Administrator, Government Information Agency.".

PART C—TRANSITIONAL, SAVINGS, AND CONFORMING PROVISIONS

SEC. 131. TRANSFER AND ALLOCATIONS OF APPROPRIATIONS AND PERSONNEL.

Except as otherwise provided in this title, the personnel employed in connection with, and the assets, liabilities, contracts, property, records, and unexpended balances of appropriations, authorizations, allocations, and other funds employed, used, held, arising from, available to, or to be made available in connection with the functions and offices transferred by this title, subject to section 1531 of title 31, United States Code, shall be transferred to the Administrator. Unexpended funds transferred pursuant to this section shall be used only for the purposes for which the funds were originally authorized and appropriated.

SEC. 132. INCIDENTAL TRANSFERS.

(a) IN GENERAL.—The Director of the Office of Management and Budget, at such time or times as the Director shall provide, is authorized to make such determinations as may be necessary with regard to the functions and offices transferred by this title, and to make such additional incidental dispositions of personnel, assets, liabilities, grants, contracts, property, records, and unexpended balances of appropriations, authorizations, allocations, and other funds held, used, arising from, available to, or to be made available in connection with such functions and offices, as may be necessary to carry out the provisions of this title. The Director shall provide for such measures and dispositions as may be necessary to effectuate the purposes of this title.

(b) TRANSFERS OF SES POSITIONS.—After consultation with the Director of the Office of Personnel Management, the Director of the Office of Management and Budget is authorized, at such times as the Director of the Office of Management and Budget may provide, to make such determinations as may be necessary with regard to the transfer of positions within the Senior Executive Service in connection with the functions and offices transferred by this title.

SEC. 133. EFFECT ON PERSONNEL.

(a) ONE-YEAR PROHIBITION AGAINST SEPARATION OR REDUCTION OF TRANSFERRED PERSONNEL.—Except as otherwise provided by this title, the transfer pursuant to this title of full-time personnel (except special Government employees) and part-time personnel holding permanent positions shall not cause any such employee to be separated or reduced in grade or compensation for one year after the date of the transfer of such employee under this title.

(b) SPECIAL RULE FOR CERTAIN APPOINTED PERSONNEL.—Any person who, on the day preceding the effective date of this title, held a position compensated in accordance with the Executive Schedule prescribed in chapter 53 of title 5, United States Code, and who, without a break in service, is appointed in the Agency to a position having duties comparable to the duties performed immediately preceding such appointment, shall continue to be compensated in the new position at not less than the rate provided for such previous position, for the duration of the service of such person in such new position.

SEC. 134. SAVINGS PROVISIONS.

(a) CONTINUATION OF ORDERS, DETERMINATIONS, ETC.—All orders, determinations, rules, regulations, permits, contracts, certificates, licenses, and privileges that—

(1) have been issued, made, granted, or allowed to become effective by the President, by any Federal agency or official thereof, or by a court of competent jurisdiction, in the performance of functions which are transferred by this title; and

(2) are in effect when this title takes effect,

shall continue in effect according to their terms until modified, terminated, superseded, set aside, or revoked in accordance with law by the President, by the Administrator, by a court of competent jurisdiction, or by operation of law.

(b) PENDING PROCEEDINGS.—(1) The provisions of this title shall not affect any proceedings, including notices of proposed rule making, or any application for any license, permit, certificate, or financial assistance, which may be pending on the effective date of this title before any Federal agency, or any office thereof, with respect to functions transferred by this title; but such proceedings or applications, to the extent that they relate to functions transferred, shall be continued. Orders shall be issued in such proceedings, appeals shall be taken therefrom, and payments shall be made under such orders as if this title had not been enacted; and orders issued in any such proceedings shall continue in effect until modified, terminated, superseded, or revoked by the Administrator, by a court of competent jurisdiction, or by operation of law. Nothing in this subsection prohibits the discontinuance or modification of any such proceeding under the same terms and conditions and to the same extent that such proceeding could have been discontinued or modified if this title had not been enacted.

(2) The Administrator and the head of each Federal agency from which functions or offices are transferred by this title are authorized to issue regulations providing for the orderly transfer of proceedings continued under paragraph (1).

(c) PENDING ACTIONS.—Except as provided in subsection (e)—

(1) the provisions of this title do not affect actions commenced prior to the effective date of this title, and

(2) in all such actions, proceedings shall be had, appeals taken, and judgments rendered in the same manner and effect as if this title had not been enacted.

(d) ACTIONS AND PROCEEDINGS NOT TO ABATE.—No action or other proceeding commenced by or against any officer in his official capacity as an officer of any Federal agency, the functions of which are transferred by this title, shall abate by reason of the enactment of this title. No cause of action by or against any Federal agency, the functions of which are transferred by this title, or by or against any officer thereof in his official capacity, shall abate by reason of the enactment of this title. Causes of action and actions with respect to a function or office transferred by this title, and other proceedings, may be asserted by or against the United States, or the Administrator, as may be appropriate, and, in an action pending when this title takes effect, the court may at any time, on its own motion or that of any party, enter an order which will give effect to the provisions of this subsection.

(e) PARTIES IN PENDING ACTIONS.—If, before the date on which this title takes effect, any Federal agency or any officer thereof in his official capacity is a party to an action, and under this title any function of such agency or officer is transferred to the Administrator, such action shall be continued with the Agency or Administrator substituted or added as a party.

(f) JUDICIAL REVIEW.—Orders and actions of the Administrator in the exercise of functions transferred by this title shall be subject to judicial review to the same extent and in the same manner as if such orders and actions had been by the Federal agency, or any office or officer thereof, in the exercise of such functions immediately preceding their transfer. Any statutory requirements relating to notice, hearings, action upon the record, or administrative review that apply to any function transferred by this title shall apply to the exercise of such function by the Administrator.

SEC. 135. SEPARABILITY.

If a provision of this title or its application to any person or circumstance is held invalid, neither the remainder of this title nor the application of the provision to other persons or circumstances shall be affected.

SEC. 136. REFERENCE.

With respect to any functions transferred by this title and exercised after the effective date of this title, reference in any other Federal law to any Federal agency or any officer thereof the functions of which are so transferred shall be considered to refer to the Agency or the Administrator.

SEC. 137. TRANSITION.

With the consent of the head of the appropriate Federal agency, the Administrator is authorized to utilize—

(1) the services of such officers, employees, and other personnel of such Federal agency, as the case

may be, with respect to functions or offices transferred to the Agency by this title; and

(2) funds appropriated for such functions or offices for such period of time as may reasonably be needed to facilitate the orderly implementation of this title.

SEC. 138. EFFECTIVE DATE.

(a) In General.—This title shall take effect 120 days after the date of the enactment of this Act, except that—

(1) section 137 shall take effect on the date of the enactment of this Act; and

(2) at any time after the date of the enactment of this Act—

(A) the officers provided for in subsections (a) and (b) of section 103 may be nominated and appointed, as provided in such section; and

(B) the Administrator and the head of each Federal agency from which functions or offices are transferred by this title may promulgate regulations under section 134(b)(2).

(b) Transitional Use of Funds.—Funds available to any Federal agency (or any official or component thereof), the functions of which are transferred by this title, may be used, with approval of the Director of the Office of Management and Budget, to pay the compensation and expenses of an officer appointed under subsection (a)(2)(A) who will carry out such functions until funds for that purpose are otherwise available.

SEC. 139. INTERIM APPOINTMENTS.

(a) IN GENERAL.—If one or more officers required by this title to be appointed by and with the advice and consent of the Senate have not entered upon office on the effective date of this title, and notwithstanding any other provision of law, the President may designate any officer who was appointed by and with the advice and consent of the Senate, and who was such an officer on the day before the effective date of this title, to act in the office until it is filled as provided by this title.

(b) COMPENSATION.—Any officer acting in an office pursuant to subsection (a) shall receive compensation at the rate prescribed by this title for such office.

SEC. 140. AUTHORIZATION OF APPROPRIATIONS.

There is authorized to be appropriated to the Agency—

(1) the sum of $10,000,000 to provide for the initial expenses of establishing the Agency and of obtaining the equipment and facilities needed to enable the Agency to operate efficiently and on a technologically current basis; and

(2) the sum of $5,000,000 as initial capital for the revolving fund established pursuant to section 105.

TITLE II—OVERSIGHT

SEC. 201. JOINT COMMITTEE ON GOVERNMENT INFORMATION.

(a) ESTABLISHMENT AND AUTHORITY.—(1) There is established a Joint Committee on Government Information (hereafter in this section referred to as the "joint committee").

(2) The joint committee shall have oversight responsibility with respect to the Government Information Agency established by title I.

(3) The joint committee shall have no authority to report any legislative measure to either House of Congress nor shall it otherwise have legislative jurisdiction.

(b) MEMBERSHIP.—(1) The joint committee shall be composed of 8 members appointed as follows:

(A) Four members of the Senate, appointed by the President pro tempore of the Senate upon the recommendations of the Majority Leader and the Minority Leader, 2 from the majority party and 2 from the minority party.

(B) Four members of the House of Representatives, appointed by the Speaker of the House upon the recommendations of the Majority Leader and the Minority Leader, 2 from the majority party and 2 from the minority party.

(2) Vacancies in the membership of the joint committee shall not affect the power of the remaining members to execute the functions of the joint committee and shall be filled in the same manner as in the case of the original appointment.

(3)(A) The joint committee shall select a chairman. Every other year, the individual serving as chairman shall alternate between a Member of the Senate and Member of the House of Representatives

(B) The joint committee shall select a vice chairman. The vice chairman shall act in the place and stead of the chairman in the absence of the chairman. The vice chairman shall not be selected from the same House of Congress as the chairman.

(c) POWERS.—(1) For purposes of this section, the joint committee, or any subcommittee thereof, is authorized—

(A) to make expenditures from the contingent fund of the Senate,

(B) to employ personnel,

(C) to hold hearings,

(D) to sit and act at any time or place during the sessions, recesses, and adjourned periods of the Senate and the House of Representatives,

(E) to take depositions and other testimony,

(F) to procure the services of individual consultants or organizations thereof, in accordance with the provisions of section 202(i) of the Legislative Reorganization Act of 1946, and

(G) with prior consent of the Government department or agency concerned and the applicable committees of the Senate and the House of Representatives, to use on a reimbursable basis the services of personnel of any such department or agency.

(2) Except as otherwise provided in this section, the joint committee may make such rules respecting its organization and procedure as it deems necessary except that no report or recommendation shall be made by the joint committee unless a majority of the joint committee assents.

(d) EXPENSES.—The expenses of the joint committee under this section shall be paid from the contingent fund of the Senate upon vouchers approved by the chairman of the joint committee.

APPENDIX V

NASA

National Aeronautics and
Space Administration

Washington D.C.
20546

Reply to Attn of: XC:KMS:tsc:XC22093f

July 29, 1987

Honorable Doug Walgren
Chairman
Subcommittee on Science, Research
  and Technology
Committee on Science, Space,
  and Technology
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter is in further response to your request for the comments of the National Aeronautics and Space Administration (NASA) on the bill H.R. 1615, "To establish the Government Information Agency to enhance the economic, scientific, and technological position of the United States by acquiring, processing, and distributing the fruits of federally performed and federally sponsored research, development, and analysis, and for other purposes." Your letter of June 24, 1987, also requested NASA's comments on H.R. 2159, the "National Technical Information Act of 1987." A study of this bill has been initiated. A separate report will be sent to you as soon as possible.

Title I of H.R. 1615 would establish a new agency in the executive branch, the Government Information Agency (GIA), whose function it would be to acquire, process, and sell the results of federally-performed and federally-funded research, development, and analysis. GIA would be appropriated an amount of $10 million for the initial expenses of establishing the agency, and $5 million as initial capital for the revolving fund which would provide for the costs of carrying out the functions of the agency. The National Technical Information Service (NTIS) of the Department of Commerce and all functions of any other Federal agency which relate to the sale or distribution of Government information to the public (to be determined by the Director of the Office of Management and Budget) would be transferred to GIA. Each Federal agency would be required to provide GIA a copy of all information developed or received by the Federal agency in connection with research, development, or analysis performed or sponsored by that agency. GIA would be authorized to establish and impose reasonable fees and charges for the sale of Government information. These fees and charges would be deposited to the revolving capital fund.

Title II of the bill would establish a Joint Committee on Government Information, composed of four members from the House of Representatives and four members from the United States Senate, which would have oversight responsibility with respect to GIA.

The effect of this bill would be to create a new agency that would consolidate the results of all Federally performed or funded research and development into a single point of sale to the public. Presently, the U.S. Government Printing Office (GPO) and the National Technical Information Service (NTIS) provide this service. We empathize with the desire to centralize the point of sale and distribution of all Government information to assist the public in trying to determine where to obtain scientific and technical information. In our opinion, however, the bill would create another bureaucracy that is not necessarily more cost effective or efficient, and that would duplicate the functions which the affected technical agencies already perform and must continue to perform in order to supply the documents and other information to GIA. The proposal appears to us to be impractical and likely to introduce further administrative paperwork.

According to this bill, all public information dissemination responsibilities of other Federal agencies would be transferred to GIA. Presumably, this would include those currently being performed by NASA. But the NASA charter (as provided by the National Aeronautics and Space Act of 1958, as amended (the Space Act)), would continue to direct NASA to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. Given this responsibility (with which NASA is quite properly vested as an important element of its mission) the transfer of this function and the requirement for NASA to also provide to GIA "a copy of all information developed or received by (NASA) in connection with research, development, or analysis" for dissemination by GIA, would be inefficient; they would add extra steps and additional time delays in the dissemination process.

The bill would require the transfer from NASA to GIA of those functions which relate to the sale of Government information to the public, most of which are carried out through the Scientific and Technical Information Facility (STIF). NASA's Technology Utilization Program, particularly the Industrial Applications Centers, relies heavily on STIF for the automatic distribution of copies of all NASA reports, technical memoranda, technical notes, and contractor reports, and for quick delivery of special orders to industrial clients. Since the identification and delivery of particular documents represents the culmination of the automated search and retrieval process, any action which could retard or encumber the rapid flow of documents could severely compromise NASA's ability to transfer technology to U.S. industry.

While we agree that the concept of creating a single agency for distribution and sale of scientific and technical information may have appeal, we believe it to be impractical and duplicative. For this reason, and its potential adverse impact on NASA, we cannot support H.R. 1615. We do not believe that it would enhance or simplify our current system of information distribution.

The Office of Management and Budget has advised that, from the standpoint of the Administration's program, there is no objection to the submission of this report to the Congress.

Sincerely,

for
John F. Murphy
Assistant Administrator
Congressional Relations Division

cc:
Honorable George Brown

NAPA
National Academy of Public Administration
Chartered by Congress

RT

August 17, 1987

Honorable Doug Walgren
Chairman, Subcommittee on Science,
  Research and Technology
2321 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

The National Academy of Public Administration is pleased to respond to your request for comments on H.R. 2159, to establish a National Technical Information Corporation and H.R. 1615, to establish a Government Information Agency.

The Academy established a panel to study the organization and financing of the National Technical Information Service consisting of Dr. Harold Seidman, former Assistant Director for Management and Organization of the Bureau of the Budget and Professor of Political Science at the University of Connecticut, as chairman; William Carey, former Executive Director, American Association for the Advancement of Science; Alan Dean, former vice president, U.S. Railway Association and Assistant Secretary for Administration, Department of Transportation; and, Dr. Martin Cummings, former director, National Library of Medicine. Dr. Seidman and Mr. Carey and Mr. Dean are members of the National Academy.

After assessing several organizational alternatives, the panel unanimously concluded that the goals established by the Congress for the National Technical Information Service could be accomplished most effectively by establishment of a Government Corporation subject to the provisions of the Government Corporation Control Act.

The panel indicated that it was not recommending special treatment for NTIS, but equal treatment. NTIS fully meets the established criteria for use of a government corporation in that it is intended to be a revenue producing and self-supporting enterprise. It is subject to market discipline and requires flexibility to develop its market and to respond effectively to market demand. Yet at present NTIS is denied the flexibility accorded comparable federal enterprises and is compelled to operate under laws and regulations designed for traditional tax financed programs. These laws and regulations hamper operations without providing effective accountability either to the President or the Congress.

1120 G Street, N.W., Suite 540 Washington, D.C. 20005 (202) 347-3190

S. 2159 is wholly consistent with and would carry out the recommendations of the Academy's panel. With one exception, the provisions of S. 2159 conform to those generally found in Government Corporation charters and recommended for corporations in the National Academy's 1981 report on Government corporations. We suggest that the provision of Sec.17(d)(8) prohibiting the corporation from entering into contracts for the purpose of obtaining funds or other financial instruments be deleted. The corporation is limited by Sec.17(d)(11) to borrowing money "only" from the Federal Financing Bank. The language of Sec.17(d)(8) could be construed as preventing the corporation from entering into contracts for the sale of goods and services. With the deletion of this provision, we believe that enactment of S. 2159 would provide the organizational structure, operating flexibility and financing best calculated to assure the most efficient and businesslike management of the NTIS programs.

The National Academy of Public Administration has not studied specifically the issue raised by H.R. 1615. Apart from the merits of consolidating government information programs serving distinct clienteles in a single agency, H.R. 1615 raises a number of technical questions which your committee may wish to consider. Except for the NTIS, the agencies, programs and functions to be transferred to the Government Information Agency are not specified. Is it intended that the Agency take over the functions of the Superintendent of Documents? If so, the Superintendent's office should be abolished. Determination of the functions to be transferred to the Government Information Agency is delegated to the Director of the Office of Management and Budget, thus conferring upon that office broad and continuing reorganization authority. H.R. 1615 would not provide the operating and financial flexibility which the Academy believes are essential for the successful conduct of the information service. The bill does establish a revolving fund and provides contracting authority, but otherwise the agency is subject to those laws and regulations designed for non-revenue producing programs. For example, there is no provision for either a business-type budget or commercial-type audit as required by the Government Corporation Control Act.

If the National Academy of Public Administration can be of further assistance to your committee, please do not hesitate to call upon us.

Sincerely,

Ray Kline
President

United States
National Commission on
Libraries and Information Science

3 November 1987

The Honorable Doug Walgren
Chairman, Subcommittee on Science,
  Research and Technology
U.S. House of Representatives
Suite 2321 Rayburn House Office Building
Washington, DC 20515

Dear Congressman Walgren:

The U.S. National Commission on Libraries and Information Science is pleased to review and comment on H.R. 2159 and H.R. 1615. The Commission applauds both you and Congressman Brown for your recognition of the services provided by NTIS as part of our national information resources. The Commission also believes that these information services are a cornerstone for our economic, scientific, technical and societal development. After thoughtful consideration of the bills, it is the opinion of the full Commission that there is no need at this time to change the existing legislation under which NTIS is operating.

The Commission appreciates the opportunity to comment on these bills.

Sincerely,

Jerald C. Newman

Jerald C. Newman
Chairman

1111 18th Street, N.W., Suite 310
Washington, D.C. 20036
(202) 254-3100

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

September 2 1 1987

Honorable Doug Walgren
Chairman, Subcommittee on Science,
Research and Technology
Committee on Science, Space, and
Technology
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your request for a report on H.R. 2159, a bill "To amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce."

This Department cannot support enactment of the bill.

H.R. 2159 would convert the existing National Technical Information Service (NTIS) to the National Technical Information Corporation (NTIC) as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce.

The Office of Federal Patent Licensing (OFPL), a unit currently within the NTIS, performs an important service for this Department. The exclusive licensing and foreign filing of USDA patents handled by the OFPL constitute a cornerstone of the technology transfer program of one of our principal inhouse research agencies, the Agricultural Research Service (ARS). We do not believe this activity can be carried out by a fully private firm. It would appear to be inappropriate to delegate to such a firm activities like license negotiation, execution, and maintenance of the patents. These functions clearly require discretionary judgments affecting the ultimate disposition of Government property.

The Office of Management and Budget advises there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

Peter Myers

PETER C. MYERS
Acting Secretary

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

September 22 1987

Honorable Doug Walgren
Chairman, Subcommittee on Science,
Research and Technology
Committee on Science, Space, and
Technology
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your request for a report on H.R. 1615, a bill "To establish the Government Information Agency to enhance the economic, scientific, and technological position of the United States by acquiring, processing, and distributing the fruits of federally performed and federally sponsored research, development, and analysis, and for other purposes."

This Department opposes enactment of this legislation.

The bill would mandate the establishment of a Government Information Agency (GIA) as a new independent agency and transfer to it all functions of any Federal agency that relate to the sale or distribution of information to the public.

The GIA would represent an additional intermediary between providers and users of information. Losses in translation that can occur when information passes through several intermediaries are well known, and to the extent such losses can be minimized it would seem beneficial to do so. The USDA is more familiar with and able to meet the information needs of its particular clientele than any new intermediary could possibly be. Thus, we believe H.R. 1615 would place an impediment in the path through which mission agencies provide information to their clientele.

Similarly, the USDA Agricultural Research Service communicates the latest achievements of its research scientists to agribusiness firms through a computerized information delivery system called TEKTRAN. Brief interpretive summaries of research results are accompanied by the names and phone numbers of principal scientists involved. Recipients of the information are encouraged to contact the principal scientists directly for further details. Feedback from industrial contacts indicates great satisfaction with this system. We do not believe interjection of an intermediary independent agency would maintain the present efficiency and effectiveness and its acceptance by our agribusiness clients could be less than total.

Finally, the Federal Technology Transfer Act of 1986, P.L. 99-502, authorizes, and Executive Order 12591 directs, that Federal research entities implement strong programs to achieve efficient technology transfer through direct interactions between Federal and industrial scientists and engineers. Insertion of an intermediary information agency between the Federal R&D agencies and the industries that transform these R&D results into commercialized technological innovations will obstruct effectuation of the intent of P.L. 99-502 and Executive Order 12591. The new Federal Technology Transfer Act and implementing Executive Order should be given time to function before this intended modus operandi is disrupted by a new process involving a new agency.

The Office of Management and Budget advises there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

Peter Myers

PETER C. MYERS
Deputy Secretary

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 15 1987

OFFICE OF
EXTERNAL AFFAIRS

Honorable Doug Walgren
Chairman, Subcommittee on Science,
  Research and Technology
Committee on Science, Space, and
  Technology
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the Environmental Protection Agency (EPA) on H.R. 2159, a bill which would amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce. The Act would be cited as the "National Technical Information Act of 1987".

The National Technical Information Corporation would supersede the National Technical Information Service (NTIS) now operating in the Department of Commerce and assume all of its functions. This Corporation would be given broad general powers, including the power to levy reasonable fees for its products and services so as to enable the Corporation to operate on a self-sustaining nonprofit basis without cost to the Treasury. The Corporation would be managed by an Administrator appointed for a six-year term by the President with the advice and consent of the Senate, and an Advisory Board would review the general policies and operations. It would also report annually to the Congress.

Numerous functions would be authorized and directed under the provisions of this legislation in relation to the collection and dissemination of nonclassified scientific, technical, and engineering information. One function would be to acquire and license Government-owned patents with significant commercial potential. The Corporation would be required to preserve the security classification of any material in its possession or control.

EPA's primary concern is that the services currently provided by the National Technical Information Services be continued. Since the inception of the Agency, we have depended on NTIS to provide our Office of Research and Development (ORD) with a vehicle to insure that the products of our activities remain permanently available to the public. We have a multi-tiered information program in ORD with first priority being that of provision of regulatory support information directly to Agency Program Offices and the Regional Offices. Secondly, we distribute information essential to compliance with Agency regulations directly to States and the regulated community. Finally, we place (in addition to much of the above material) the products of our extramural research program directly into NTIS so that they will be available to the research community.

If, as proposed in H.R. 2159, NTIS is replaced with a Government Corporation, it is conceivable that the necessity to make that venture profitable could bring pressure on the new Corporation to drop products that are not paying their way. Since many of the research communities that are interested in our information are small, it is possible that they could lose access to our studies and that the result could be a duplication of research activity.

For the above reasons, EPA does not support enactment of H.R. 2159.

The Office of Management and Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration program.

Sincerely,

Joy Wilson

Jennifer Joy Wilson
Assistant Administrator
for External Affairs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 6 1987

OFFICE OF
EXTERNAL AFFAIRS

Honorable Doug Walgren
Chairman, Subcommittee on Science,
Research and Technology
Committee on Science, Space, and
Technology
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the Environmental Protection Agency (EPA) on H.R. 1615, a bill which would establish the Government Information Agency (GIA) for the purpose of enhancing the economic, scientific, and technological position of the United States by acquiring, processing, and selling the fruits of federally performed and federally sponsored research, development, and analysis.

Under the provisions of this proposed legislation, each Federal agency would be required to provide to the Administrator of GIA all information it developed or received in connection with research, development, or analysis performed or sponsored by the agency. The term "Government information" is defined as all scientific, technical, business, and economic information or data that pertains to or is derived from federally performed or sponsored research, development or analysis; excluded is information which is (1) classified, (2) provided by a contractor in connection with a contract entered into with the agency, or (3) the sale, disclosure or distribution of which is otherwise prohibited or restricted by Federal law.

We believe that provisions of H.R. 1615 present a risk to severely disrupt the operational efficiency of the Agency. This asssessment comes from two aspects of the bill. First, the definition of "Government Information" is extremely broad, even reaching into computer data bases the Agency establishes, and second, the proposed Government Information Agency is given broad authority for rulemaking in the performance of its functions.

While the concept of a centralized source of government information may, at least on the surface, be quite attractive to the user, our experience has shown that potential to be unlikely to be fulfilled. We have found that the greater the number of intervening layers that exist between the source and user, the longer the time required to get information across that gap. In the case of a regulatory agency, it is essential to get information required by regulated communities into their hands to allow them to efficiently comply with Agency requirements.

Another problem EPA has with H.R. 1615 is that it authorizes the proposed Government Information Agency to collect government information ". . . developed or received by the Federal agency in connection with research, development, or analysis performed or sponsored by that agency, . . ." This authority could conceivably be used to require release of information before the Agency had the opportunity to conduct proper evaluation of the material it has received or developed, presumably even in draft stages prior to completion of a particular regulatory development activity. The potential disruptiveness of this authority is obvious.

For these reasons, EPA opposes enactment of H.R 1615.

The Office of Management and Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely,

Joy Wilson

Jennifer Joy Wilson
Assistant Administrator
for External Affairs

National Archives

Washington, DC 20408

SEP 24 1987

Honorable Robert A. Roe
Chairman, Committee on Science, Space, and Technology
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The National Archives and Records Administration (NARA) offers the following comments on H.R. 2159, a bill "to amend the Stevenson-Wydler Act to establish the National Technical Information Corporation as a wholly-owned Government corporation under the direction and supervision of the Secretary of Commerce."

We are concerned that the proposed section 17(k)(1) which directs the proposed National Technical Information Corporation "to establish and maintain a permanent repository" [emphasis added] . . . for the collection and dissemination of nonclassified scientific, technical, and engineering information," unnecessarily duplicates NARA's mission to preserve and make available for research the permanently valuable records of the Federal Government.

Such records are accessioned into the National Archives of the United States under the authority of 44 U.S.C. 2107 when the records are 30 years old or when the agency has no current administrative need for the records. The records of the present National Technical Information Service are scheduled to be accessioned into the National Archives when they are 10 years old. Records transferred to NARA are made available for research at no charge. Reproductions are provided at a reasonable fee set to recover the cost of reproduction.

We are concerned that H.R. 2159 fails to provide that the proposed National Technical Information Corporation transfer its collection of scientific, technical, and engineering information to NARA in accordance with 44 U.S.C. 2107.

The Office of Management and Budget has advised that, from the standpoint of the Administration's programs, there is no objection to the submission of this report to your Committee.

Sincerely,

Claudine Weiher
FRANK G. BURKE
Acting Archivist
of the United States

Central Intelligence Agency

Washington, D.C. 20505

RECEIVED
OCT. 6 1987
Committee on Science, Space,
and Technology

7 August 1987

The Honorable Robert A. Roe
Chairman
Committee on Science, Space
and Technology
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The Central Intelligence Agency hereby provides its comments on H.R. 1615, which is a bill to establish the Government Information Agency (GIA). For the reasons stated below, the Agency opposes enactment of this legislation.

The bill requires each Federal agency to provide to the GIA information it has developed or received in connection with its research, development or analysis. While it exempts classified information, it does not exclude information which is sensitive although not currently classified. Providing such information to the GIA would disclose, for example, information which may have been acquired from classified sources, but which is in and of itself unclassified. It may reveal information which is individually unclassified, but the systematic disclosure of which would reveal intelligence interests. The disclosure of information which may appear innocuous to the untrained eye, therefore, may cause damage to the national security.

Thus, this bill would require the Agency to classify a larger amount of information than is currently classified. Its effects would be to decrease the information available to the public and to inhibit dissemination within the Government. Another related adverse consequence would be the increased costs associated with the secure storage of a larger volume of classified information.

While the bill exempts from the definition of "Government information" information provided by a contractor in connection with a contract, including but not limited to information which constitutes a trade secret, the bill nonetheless may decrease the information available to this agency or other Government agencies for use in internal studies or reports. Much valuable information (e.g., proprietary information and copyrighted information) is provided to the Agency for use in studies or reports either free of charge or based on a fee for limited dissemination within the Government. If the Agency is required to provide such reports or studies to GIA, we believe our sources of information may decrease and, consequently, the finished product might suffer.

This bill does not address the difficult issue raised with respect to the pervasive role that sensitive but unclassified information plays in the manner in which the Agency *fulfills its mission. Accordingly,* we must oppose this bill.

We appreciate the opportunity to present our views on this legislation. We assure you that the Agency will continue its efforts to distribute information to the maximum extent possible consistent with its mission and with the requirements of national security. The Office of Management and Budget has advised that there is no objection to the submission of this report from the standpoint of the Administration's program.

A copy of this letter has also been sent to Chairman Jack Brooks of the House Committee on Government Operations.

Sincerely,

David Gries

David D. Gries
Director of Congressional Affairs

APPENDIX VI

[illegible]

Congreſs of the United States
Joint Committee on Printing

[illegible]

87194

September 29, 1987

The Honorable Doug Walgren
Chairman, Subcommittee on Science,
  Research and Technology
2319 Rayburn House Office Building
Washington, D. C. 20515

Dear Mr. Chairman:

Thank you for your recent letter soliciting the Joint Committee's comments regarding the collection and dissemination of scientific and technical information. I am happy to provide the enclosed information prepared by the Committee staff. I hope that it will be helpful to you in your deliberations on this issue.

If there are any questions regarding this matter, please contact Mr. Richard Oleszewski, Staff Director of the Joint Committee, at 4-5241.

With every best wish, I am

Sincerely,

Frank Annunzio
Chairman

Enclosure

What role does the Joint Committee on Printing foresee for the Government Printing Office in disseminating Federal scientific and technical information?

The Government Printing Office (GPO), through the Superintendent of Documents, already plays a very substantial role in the dissemination of Federal scientific and technical information. The Superintendent of Documents administers at least four separate and distinct programs whose purpose it is to make such information readily available. These four statutorily based programs (see Chapters 17 and 19 of Title 44, United States Code) are the: 1.) Depository Library Program; 2.) Document Sales Program; 3.) International Exchange Program; and 4.) Cataloging and Indexing Program.

The Depository Library Program annually distributes approximately 55,000 separate titles, of which about 90% are scientific or technical, to 1,400 libraries spread across the United States. These libraries provide free access to the information for the general public.

The Document Sales Program has for sale approximately 20,000 separate titles, of which about 72% are scientific or technical. The public can purchase such information at reasonable prices either by mail order or through any one of 24 bookstore locations across the country.

The International Exchange Program, as the name suggests, literally exchanges our published government information, including scientific and technical publications, with other national governments around the world which agree to reciprocate with similar information of their own. In each case the exchange is conducted pursuant to treaties established with the governments.

The Cataloging and Indexing Program, while not an actual dissemination program, is integral to the identification--and thereby the location--of various government information products that may be available for examination. Without such an identification process, the scholarly, business or other use of scientific and technical information would be greatly impeded.

There is no reason to expect the scope of these programs to decline, and indeed they likely will be expanded. The Joint Committee recently gave its approval to the Superintendent of Documents to begin selling information products in electronic formats, in addition to the existing paper and microfiche versions. While this electronic dissemination program is just beginning, one can expect gradual but substantial growth to occur. In addition, also pursuant to Joint Committee approval, the Superintendent of Documents is exploring the possibilities of providing documents in electronic formats to depository libraries. Therefore, GPO's role in disseminating scientific and technical information is a most important part of overall government distribution, and there is every reason to believe that it will remain so.

How have improvements in technology affected the Government Printing Office?

Over the years GPO has made great strides in introducing and using modern technology. This is true of both printing applications, and in automated systems to administer various dissemination programs. For example, GPO has made great use of electronic typesetting, microforms, and automated order fulfillment systems for many years. As stated previously, they also are venturing into other electronic technologies for both the Depository Library and Document Sales Programs. In short, GPO can be expected to examine and apply any and all new technologies that offer improved efficiencies or cost savings. Currently, the Office of Technology Assessment (OTA) is conducting a study requested by the Joint Committee on Printing that focuses, in part, upon the availablity and use of new technology by the GPO. The OTA study should be most helpful in assisting GPO's transition to the use of the newest of technological innovations.

Will recent changes in Federal Acquisition Regulations implemented by the Department of Defense, the General Services Administration and the National Aeronautics and Space Administration adversely affect dissemination of Federal information?

In practical terms, the implementation of the amendment to the FAR could be highly injurious to the free flow of information to the citizens of the United States. If the printing of government publications is not accomplished through the GPO system, many such information products will never be cataloged by GPO, will never be made a part of the Depository Library distribution system, and will never be offered for sale by the Superintendent of Documents. As such, citizens, researchers and businessmen may never know a publication exists. Or, if they do discover its existence, they will not be able to borrow a copy from a library nor will they be able to purchase a copy. Of course, the same circumstances will prevent proper compliance with treaty provisions in fulfillment of the International Exchange Program.

The escape of publications from the Sales Program will do harm on another level. The Sales Program is mandated by law to recover its costs from sales revenues. The fixed costs of administering the program, therefore, are spread over the number of titles in the program. The fewer the number of titles, the higher the fixed costs assigned to each one. Consequently, fewer titles means higher individual prices for the general public. Progressively higher prices will place more and more publications beyond the reach of ordinary citizens.

What benefits accrue to the Government from centralized management of Government printing services? What costs are imposed by this policy?

The benefits are substantial. First of all are the benefits that are available through the full utilization of resources. By having control over the majority, if not the total printing workflow, GPO is able to keep existing equipment and manpower productively employed at all times. If forced to rely upon the whims or discretion of agencies as to when work is forwarded, there are bound to be times when expensive manpower and equipment sit idle at GPO. Second, with the realization that the GPO system is primarily based upon the procurement of printing from the private sector, there are benefits that come from specialization and economies of scale. That is, GPO employs a staff of printing procurement specialists who perform only those functions. They are experts at the unique problems and situations that arise in printing procurements. As a result, routine errors are minimized, costs of contract administration are lowered, and disputes that require adjudication are fewer.

Third, and perhaps most important of all, is the competition that is generated in the private printing industry by exposing all procurements to the broadest spectrum of bidders. Over 12,000 firms are registered with GPO as available to compete for government printing. As such, the government receives highly competitive prices that are, on average, about half of the cost that a typical agency printing plant would incur in producing the products. Even if agencies procured the work on their own, the breadth of competition would surely be less than is possible through the GPO system, and therefore prices are likely to be substantially higher.

One other public policy benefit that arises from the existing centralized system is that even the smallest private sector vendor can approach GPO, and with a single contact be made aware of all jobs that are available. Without such "one-stop shopping", a small contractor would have to expend substantially more resources in calling upon the multitude of agencies that may be procuring printing work. Most small printing companies do not have such resources and would miss out on the opportunities to bid. This would not only be detrimental to these small businesses, but also would deny the government the benefit of their competition.

Correspondingly, the benefits to be derived from centralized production management, extend to the distribution area. Through centralization, as discussed above, information products get properly cataloged and indexed. This process permits users to identify and locate materials. Those desiring Federal government information need only contact the central agent for distribution of the information--GPO. Likewise, the Depository Library and International Exchange Programs are beneficiaries.

Would the Committee support the changes necessary to implement the enclosed legislation (H.R. 1615) creating a Government Information Agency?

It cannot be predicted whether complete consensus could be reached among the 10 members of the Joint Committee on Printing regarding the specifics of any piece of legislation. However, it is likely that a majority of the members of the committee would support the principles that underlie the provisions of H.R. 1615.

Certainly, there is much to be said for centralizing the dissemination of all government information. The benefits accruing from centralization of government printing services, as discussed above, are obvious. Similar centralization of dissemination should provide similar benefits.

Rather than creating an entire new organization, however, serious thought should be given to the consolidation of existing dissemination organs under the auspices of one of the existing agencies. As part of Government Printing Office, the Superintendent of Documents is already the center of production and dissemination of the largest number of the government's information products. It either employs, or will shortly employ, any and all efficient media formats for distribution. While other agencies may have broader experience in certain areas, the addition of such expertise at GPO will only serve to promote further the efficiency of dissemination efforts under the Superintendent of Documents' roof.

Further benefits of centralizing dissemination at GPO include: GPO's large database of current users of Government information, (consisting of more than 900,000 documents purchasers and 600,000 subscribers to more than 500 technical periodicals), its successful marketing program which already promotes awareness of Government information to the scientific, technical, business and medical communities, and the currency of its information products. In short, as Public Printer Kennickell suggested in his testimony before the subcommittee, the Superintendent of Documents may be the most logical choice for the centralization of government dissemination programs.

Georgia Institute of Technology
Atlanta, Georgia 30332

Academic Affairs
Price Gilbert Memorial Library

August 21, 1987

The Honorable Doug Walgren, Chairman
Subcommittee on Science, Research
and Technology
ATTN: James Paul
B374 Rayburn House Office Building
Washington, DC 20515

Dear Mr. Chairman:

I want to thank you for the opportunity to submit comments on the management of federal information related to HR1615 and HR2159. The purpose of my statement is to provide an overview of the public policy aspect of information management. The Office of Technology Assessment is preparing a comprehensive study which will include policy as well as administrative options for the federal management of information. The study should be completed during the coming Fall. It may provide concepts of use to your committee as you proceed to examine this matter. I would appreciate your consideration in making this letter part of the official hearing record.

1. The United States Government is the primary source of funds for domestic research in science and technology. To further this research and to support the national economy the Government funds seven separate international information exchange programs managed by six different agencies of Government covering paper copy technical literature. Each of the following titles represents one of the programs. In aggregate these systems provide a comprehensive global network for the communication of research in applied technology. There is no equivalent to this conglomerate for electronic information products.

(1) Energy Research Abstracts, produced by the Department of Energy, covers foreign and domestic technical literature regardless of language or country of origin;

(2) Government Reports Announcements And Index, produced by the National Technical Information Service, covers foreign and domestic technical literature, regardless of language or country of origin, of interest to federal agencies;

(3) Scientific and Technical Aerospace Reports, produced by the National Aeronautics and Space Administration, covers foreign and domestic governmental technical literature regardless of language;

(4) International Aerospace Abstracts, sponsored by the National Aeronautic and Space Administration, but produced by the American Institute of Aeronautics and Astronautics, covers foreign and domestic non-governmental literature regardless of language;

(5) Index Medicus, produced by the National Institutes of Health, covers domestic and foreign serial and monographic literature regardless of language or country of origin;

(6) Selected Water Resources Abstracts, produced by the U.S. Geological Survey, covers foreign and domestic technical literature regardless of language or country of origin;

(7) The Monthly Catalog Of United States Government Publications, produced by the Government Printing Office, covers paper and microform materials published by the Congress, the Judiciary, and the Executive Agencies. Most of the materials are distributed in the Depository Library Program under provisions of 44 USC Chapter 19.

2. Virtually all of our primary technologies are information dependent. Centrally organized dissemination provides a cohesive and efficient process for making information available to scientists and engineers. Combining the Government Printing Office and the National Technical Information Service into a consolidated government information agency is a concept worthy of examination. If the agency were to be placed in the Executive Branch, it should be closely tied to Congress which has always been more responsive to the needs of industry and researchers for information. The agency could have a governing board whose membership would be jointly and equally appointed by the President, the President Pro Tem of the Senate, and the Speaker of the House of Representatives. The board could be given the authority to designate the agency's director.

3. The Federal Government organizes and disseminates information in which it is interested. This information has by law never carried a copyright; therefore, private industry has been free to sell the information with or without value added products. The information industry depends largely on the market demand for value added information products. Business Week (August 25, 1986) estimated that the 1985 market for electronic information products was $1.6 billion. While industry needs value added packaged information products, researchers and scientists often need disaggregated or raw data. Technology will continue to change the way information is produced, obtained and used; therefore, it would be inadvisable to restrict the private sector to legislatively determined services and products.

4. Today the public and private sectors are generally converting to electronic information systems. These systems employ magnetic and non-magnetic disks, high density tapes, and laser technology. The storage media may be resident locally or at remote locations. All require computer hardware and software to be used. Usage of the information contained in these systems has certain common aspects such as direct contact between information producer and information consumer. Other requirements involve system documentation and data descriptions. High speed telephonic transport is increasingly likely for large files. These factors significantly alter the traditional mechanisms used by the Government to disseminate information. Electronic files require different mechanisms and different technology for dissemination.

5. The administrative structure responsible for information management should be nonpartisan. It should be clearly removed from the patronage requirements or political ideology of an incumbent Administration; therefore, the responsibility for administering information should not be placed in the Office of Management and Budget which reflects the political ideology of an Administration.

6. Congress may wish to continue to build on the information management initiative begun with the Paperwork Reduction Act. Possibly, hearings could be held to examine the organization and dissemination requirements of electronic information. The hearings could obtain testimony on information uses and recommendations for an administrative structure from the National Academies of Science and Engineering, federal agencies with significant responsibilities in this area such as the National Bureau of Standards and the Census Bureau, the Institute of Electrical and Electronics Engineers, from other professional associations, from the Inter-University Consortium for Political and Social Research, academic institutions, and state and local government.

Once the hearings are completed, Congress needs to establish a policy for federal information similar to 44 USC Chapter 19 which focuses on printed materials. The policy needs to state what information should be in the public domain and why it would be there. Having established the policy, Congress could then create an agency to carry out that policy. The agency would need to be granted the authority to compel release of information, to set standards for information storage, and to establish procedures to facilitate the legislative requirements for its public availability.

Sincerely,

Miriam A. Drake
Director of Libraries

MAD:tgd

THE AMERICAN UNIVERSITY
WASHINGTON, D.C.

June 15, 1987

Mr. James Turner, Counsel
Subcommittee on Science, Research
and Technology
Committee on Science, Space and
Technology
Rm. 2319, Rayburn HOB
Washington, D.C. 20515

Dear Mr. Turner:

As an historian of recent American history with a particular interest in the preservation of public records, I am writing in support of H.R. 1615 and H.R. 1616. I am currently a member of the American Historical Association's Research Committee and the Access to Information Committee of the Organization of American Historians and can assure you that other historians share my concern about the recent trends in federal administrative practices that are leading to the erosion of the public record. Decentralization, dependence upon contractual arrangements, rapid turnover of senior level civil servants and the desire to "privatize" government information depletes the historical record of this nation even as it dissipates government accountability to the public.

Today's information is tomorrow's historical record. For this reason historians have shared the concern of librarians and information specialists over the effects of OMB Circular A-130, the threat to NTIS as a government supported entity and the failure to properly retrieve government information produced by contractors. These bills currently before your Committee would not only rationalize the current disorderly system but assure a more complete historical record for future generations.

Sincerely,

Anna K. Nelson
Anna K. Nelson

4400 Massachusetts Avenue, N.W., Washington, D.C. 20016